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STATUS OF NEW VERTEBRATES DESCRIBED OR COLLECTED BY LOVERIDGE

By ARTHUR LOVERIDGE

In 1957, shortly before my retirement from the curatorship of reptiles and amphibians in the Museum of Comparative Zoology, I was asked by a reporter how many "new kinds of East African animals" I had discovered. Having kept no record of late I was reluctant to name a figure but, when pressed, replied that—with due allowance for some synonymization and not wishing to exaggerate—I should say "about 150."

Recently, with more leisure for such matters, I compiled a list of the Vertebrates. All African, except for some reptiles and amphibians that I described from collections made by colleagues as noted in the appropriate place below. Somewhat to my surprise I found the following:

Mammals	39,	of	which	1	has	been	synonymized
Birds	46,	,,	,,	26	have	,,	,,
Reptiles	139,	,,	,,	18	,,	,,	,,
Amphibians	91,	,,	,,	12	,,	,,	,,
Fish	20,	,,	,,	11	,,	,,	,,
TOTAL VERTEBRATES	335,	,,	,,	67	,,	,,	,,

If the word "animals" was intended to include invertebrates, I have little doubt that the figure would be doubled, for many insects, myriapods, crustaceans, molluscs, earthworms and parasitic worms have been described from my collections by specialists in those groups.

After I went to the United States in 1924, I was accustomed to receive enquiries as to where the description of this or that new form might be found. Especially African workers, remote from library facilities, seemed to experience difficulty in locating the Proceedings of the New England Zoological Club. I might say that this club no longer exists and its stock of publications has been taken over by the Museum of Comparative Zoology, Cambridge 38, Massachusetts. On the other hand the current editor of the Proceedings of the Biological Society of Washington is usually a staff member of the United States National Museum, Washington, D.C.

To facilitate prompt answering of queries regarding types, until about 15 years ago, I kept a card index of new forms. This index I have now brought up to date and publish as a list in the hope that it will prove useful to know the present status of valid species, or with what forms others have been synonymized.

Following the standardized citation, the TYPE LOCALITY is given. Sometimes the original spelling is followed in parentheses by the alternative one furnished by the late Gerald Swynnerton in his excellent gazetteer of Tanganyika mammalian type localities. Other helpful details have frequently been added. Supplementary information about every COLLECTING LOCALITY (type or otherwise) visited by me during the course of the five East African expeditions that I carried out for Harvard University, will be found in the published itineraries. As in most instances these were printed in separate bulletins to the other reports, it might be as well to list them here.

1928, *Mem. Mus. Comp. Zool.*, **50,** No. 2, pp. 96–103.
1933, *Bull. Mus. Comp. Zool.*, **75,** No. 1, pp. 1–43, map, etc.
1937, *Bull. Mus. Comp. Zool.*, **79,** No. 9, pp. 481–541, map, etc.
1944, *Bull. Mus. Comp. Zool.*, **94,** No. 5, pp. 191–214, map, etc.
1953, *Bull. Mus. Comp. Zool.*, **110,** No. 7, pp. 447–487, map, etc.

In the present paper, immediately after the type locality, is listed the TYPE (usually by sex) which, *ipso facto*, constitutes a HOLOTYPE if specially designated or where only one example of the new form was available to the describer. When other material was referred to by the author as representing his new species or race, the number of these PARATYPES is given. Occasionally in earlier days Boulenger designated no type, then all the available specimens used held co-equal rank as COTYPES. Unfortunately some confusion arose in Europe as to the distinction between paratypes and cotypes; this has resulted in some workers preferring the word SYNTYPE in place of cotype as defined above.

Omitting the numbers of specimens preserved during my ten years' residence in East Africa, below are recorded those collected on the five expeditions referred to above. Except for the first, when only four months was devoted to zoological investigations, each of these consisted of eight or nine months in the field.

Editor's Note.—*Funds for the publication of this paper have been contributed by Mr. Loveridge.*

Vertebrates preserved	1926–27	1929–30	1933–34	1938–39	1948–49	Total
Mammals	300	700	1,024	812	600	3,436
Birds	400	783	534	809	510	3,036
Reptiles	1,090	2,117	2,280	1,862	1,120	8,469
Amphibians	2,949	2,759	2,528	1,681	1,680	11,597
Fish	?	?	?	?	?	?
TOTALS	4,739	6,359	6,362	5,164	3,910	26,538

Acknowledgements to those specialists who have helped me in one way or another, are made under the appropriate group.

MAMMALS

The 39 mammals described as new from my collections are listed according to the arrangement adopted by G. H. Swynnerton and R. W. Hayman in their "Checklist of the Land Mammals of the Tanganyika Territory and Zanzibar Protectorate" (1951, *Journ. E. Africa Nat. Hist. Soc.*, **20**, pp. 274-392). However, a dozen of them are not included in that list, having either been described since its publication or because they came from surrounding territories—the eastern Congo; Uganda; Kenya and Nyasaland. These follow G. M. Allen's "Checklist of African Mammals" (1939, *Bull. Mus. Comp. Zool.*, **83**, pp. 1-763).

In some of the earlier papers by Oldfield, Thomas and others, mention is made only of the designated type—though accompanied by a series. Such series were divided between the British Museum and what is now known as the Coryndon Museum, Nairobi.

I take this opportunity of thanking Mr. R. W. Hayman of the British Museum for supplying me with the sex of certain types, also for reading the typescript of this section and making several corrections.

During the course of my two tours and five expeditions to East Africa a total of 4,856 mammals were collected and preserved. After eliminating a few misidentifications, and the subsequent synonymizing of others, approximately 455 species or races resulted. So far as Tanganyika alone is concerned, 301 of the 426 feral animals listed by Swynnerton and Hayman were taken, i.e 70 per cent of the Territory's mammalian fauna.

On pages 359-369 of their checklist, altitudes as well as precise latitudes and longitudes of Tanganyika localities will be found. Some of the altitudes are at variance with those furnished in my original itineraries; usually this is due to the fact that, though the nearest village was cited as type locality, my camp was generally situated some little distance above it up the mountain. Subsequently Swynnerton (1945, *Proc. Zool. Soc. London*, **115**: 49-84) revised the information concerning these type localities.

INSECTIVORA

CHLOROTALPA TROPICALIS Allen & Loveridge.

Chlorotalpa tropicalis Allen & Loveridge, 1927, *Proc. Boston Soc. Nat. His.*, **38**: 418. Bagilo about 6,000 feet, Uluguru Mountains, Tanganyika Territory. Holotype ♀.

Called Uluguru Golden-Mole by Swynnerton & Hayman (1951: 280).

ELEPHANTULUS RUFESCENS OCULARIS Kershaw.

Elephantulus ocularis Kershaw, 1921, *Ann. Mag. Nat. Hist.* (9), **8**: 563. Dodoma, 3,700 feet, Ugogo, Tanganyika Territory. ♀ + 11 other adults.

Relegated to subspecific status by Swynnerton & Hayman (1951: 281).

ELEPHANTULUS RUFESCENS RENATUS Kershaw.

Elephantulus renatus Kershaw, 1923, *Ann. Mag. Nat. Hist.* (9), **11**: 588. Gwao's Village, i.e. Ikungi, 4,700 feet, Singida District, Tanganyika Territory. ♀ + 5 other adults.

Relegated to subspecific status by Swynnerton & Hayman (1951: 281).

CROCIDURA MAURISCA GEATA Allen & Loveridge.

Crocidura maurisca geata Allen & Loveridge, 1927, *Proc. Boston Soc. Nat. Hist.*, **38**: 417. Nyingwa, about 7,500 feet, Uluguru Mountains, Morogoro District, Tanganyika Territory. ♂ + ♀

The subspecific name, Allen's creation, derived from G.E.A.

SUNCUS VARILLA MINOR Allen & Loveridge.
Suncus varilla minor Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 57. Kitungulu, about 4,500 feet, Ufipa District, Tanganyika Territory. ♀.

CHIROPTERA

NYCTERIS MARICA Kershaw.
Nycteris marica Kershaw, 1923, *Ann. Mag. Nat. Hist.* (9), **12**: 534. "Tindiga" i.e. Tendigo, 1,410 feet, Kilosa District, Tanganyika Territory. ♂
Named after my wife, Mrs. Mary V. Loveridge.

NYCTERIS NANA TRISTIS Allen & Lawrence.
Nycteris nana tristis Allen & Lawrence, 1936, *Bull. Mus. Comp. Zool.*, **79**: 47. Kaimosi, Kakamega District, Kenya Colony. ♀.

TADARIDA ANGOLENSIS ORIENTIS (Allen & Loveridge).
Mops angolensis orientis Allen & Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 166. Kitaya, *ca.* 300 feet, Ruvuma River, Mikindani District, Tanganyika Territory. ♂ + 5 ♂♂, 4 ♀♀.
Mops is regarded as a subgenus of *Tadarida* by Swynnerton & Hayman (1951: 296).

PRIMATES

GALAGO DEMIDOVII ORINUS Lawrence & Washburn.
Galago demidovii orinus Lawrence & Washburn, 1936, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 259. Bagilo, about 5,000 feet, Uluguru Mountains, Morogoro District, Tanganyika Territory. ♂.
Galago gallarum cocos Allen & Loveridge (part; not of Heller), 1927, *Proc. Boston Soc. Nat. Hist.*, **38**: 425.
Four of the five specimens in the Bagilo series mentioned in the 1927 citation, actually were *cocos*, a form now regarded as synonymous with *Galago senegalensis zanzibaricus* Matschie.

RODENTIA

FUNISCIURUS PYRRHOPUS VICTORIAE Allen & Loveridge.
Funisciurus pyrrhopus victoriae Allen & Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 180. Kibale Forest, 4,200 feet, Toro, Uganda. ♂.

PARAXERUS BYATTI LAETUS (Allen & Loveridge).
Aethosciurus byatti laetus Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 96. Madehani, 7,000 feet, Ukinga Mountains, Njombe District, Tanganyika Territory. ♂ + 4 ♂♂, 5 ♀♀.

PARAXERUS FLAVIVITTIS MOSSAMBICUS Thomas.
Paraxerus flavivittis mossambicus Thomas, 1919, *Ann. Mag. Nat. Hist.* (9), **4**: 31. Lumbo, mainland opposite Mozambique Island, Mozambique. ♀ + 14 others.

PEDETES CAFER TABORAE Allen & Loveridge.
Pedetes cafer taborae Allen & Loveridge, 1927, *Proc. Boston Soc. Nat. Hist.*, **38**: 438. Tabora, 4,000 feet, Unyamwezi, Tanganyika Territory. ♀ + ♂.

PEDETES CAFER DENTATUS Miller.
Pedetes cafer dentatus Millller, 1927, *Proc. Biol. Soc. Washington*, **40**: 113. Dodoma, 3,700 feet, Ugogo, Tanganyika Territory. ♂, + ♀ from Mukwese, Manyoni.

CRYPTOMYS HOTTENTOTUS OCCLUSUS Allen & Loveridge.
Cryptomys hottentotus occlusus Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 125. Kigogo, 6,000 feet, "Uzungwe" i.e. Uzungwa Mountains, Iringa District, Tanganyika Territory. ♂ + 15.

GRAPHIURUS MURINUS COLLARIS (Allen & Loveridge).
Claviglis soleatus collaris Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 122. Madehani, 7,000 feet, Ukinga Mountains, Njombe District, Tanganyika Territory. ♀ + 2 ♂♂.
The nomenclatorial change was made by Swynnerton & Hayman (1951: 310) who regard *Claviglis* as only a subgenus.

THAMNOMYS VENUSTUS KIVUENSIS Allen & Loveridge.
Thamnomys venustus kivuensis Allen & Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 192. Upper Mulinga, 6,500 feet, Idjwi Island, Lake Kivu, Belgian Congo. ♀.

DASYMYS INCOMTUS ALLENI Lawrence & Loveridge.

Dasymys ? helukus Allen & Loveridge (not of Heller), 1933, *Bull. Mus. Comp. Zool.*, **75**: 115.

Dasymys incomtus alleni Lawrence & Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 53. Ilolo, 4,600 feet, Rungwe Mountain, Tanganyika Territory. ♂ + 6 ♂♂, 5 ♀♀ from 7 localities.

ARVICANTHIS ABYSSINICUS TENEBROSUS Kershaw.

Arvicanthis abyssinicus tenebrosus Kershaw, 1923, *Ann. Mag. Nat. Hist.* (9), **11**: 595. Tabora, 4,000 feet, Unyamwezi, Tanganyika Territory. ♀ + 29 others not mentioned by Kershaw.

AETHOMYS CHRYSOPHILUS SINGIDAE (Kershaw).

Rattus (*Aethomys*) *chrysophilus singidae* Kershaw, 1923, *Ann. Mag. Nat. Hist.* (9), **12**: 535. Gwao's Village, i.e. Ikungi, 4,700 feet, Singida District, Tanganyika Territory. ♀ + 2 others not mentioned by Kershaw.

In 1923 *Aethomys* was considered a subgenus of *Rattus*. The race *singidae* is called Turu Bush-Rat by Swynnerton & Hayman (1950: 314).

RATTUS JACKSONI MELANOTUS (Allen & Loveridge).

Praomys tullbergi melanotus Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 106. Nyamwanga, 6,400 feet, Poroto Mountains, Tanganyika Territory. ♂ + 23 others from 5 localities.

Praomys is considered a subgenus of *Rattus* in the view of some mammalogists, including Swynnerton & Hayman (1950: 315).

RATTUS COUCHA ITIGIENSIS (Hatt).

Mastomys coucha itigiensis Hatt, 1935, *Amer. Mus. Novit.*, No. 791: 3. Gwao's Village, i.e. Ikungi, 4,700 feet, Singida District, Tanganyika Territory. ♀ + ♂♂♀.

Though listing this form, Swynnerton & Hayman (1950: 317: footnote) suggest that it may prove synonymous with *microdon* Peters (1852).

MUS BUFO ABLUTUS Allen & Loveridge.

Leggada bufo ablutus Allen & Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 199. Upper Mulinga, 6,500 feet, Idjwi Island, Lake Kivu, Belgian Congo. ♂ + ♀ + 1.

Similarly *Leggada* is regarded as only a subgenus of *Mus* by Swynnerton & Hayman (1950: 317).

MUS GERBILLUS (Allen & Loveridge).

Leggada gerbillus Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 112. Dodoma, 3,700 eet, Ugogo, Tanganyika Territory. ♂.

SACCOSTOMUS CRICETULUS Allen & Lawrence.

Saccostomus cricetulus Allen & Lawrence, 1936, *Bull. Mus. Comp. Zool.*, **79**: 100. Greeki River, *ca.* 3,000 feet, Sabei District, Uganda. ♂ + ♀.

STEATOMYS LOVERIDGEI Thomas.

Steatomys loveridgei Thomas, 1919, *Ann. Mag. Nat. Hist.* (9), **4**: 33. Lumbo, mainland opposite Mozambique Island, Mozambique. ♂.

STEATOMYS MUANZAE Kershaw.

Steatomys muanzae Kershaw, 1923, *Ann. Mag. Nat. Hist.* (9), **12**: 535. "Nyambita, Mwanza," i.e. Nyambiti, 4,000 feet, Kwimba District, Usukuma, Tanganyika Territory. ♂ + 2 others.

STEATOMYS PRATENSIS NYASAE Lawrence & Loveridge.

Steatomys pratensis nyasae Lawrence & Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 39. Likabula River, 2,100 feet, foot of Mlanje Mountain, Nyasaland. ♂, + 9 ♂♂, 5 ♀♀ from two localities.

OTOMYS ANCHIETAE LACUSTRIS Allen & Loveridge.

Otomys anchietae lacustris Allen & Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **75**: 120. Madehani, 7,000 feet, Ukinga Mountains, Tanganyika Territory. ♀, + 17 from five localities.

OTOMYS BARBOURI Lawrence & Loveridge.

Otomys tropicalis elgonis Allen & Lawrence (part, not of Wroughton), 1936, *Bull. Mus. Comp. Zool.*, **79**: 106 (Kaburomi and Madangi material only).

Otomys angoniensis elassodon Allen & Lawrence (part, not of Osgood), 1936, *Bull. Mus. Comp. Zool.*, **79**: 106 (Most, but not all, of the Kaburomi series).

Otomys barbouri Lawrence & Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 63. Kaburomi, 1°14′ N., 34°31′ E., 10,500 feet, Mount Elgon, Uganda. ♂, + 4 ♂♂, 4 ♀♀, 1 unsexed, from two localities.

OTOMYS UZUNGWENSIS Lawrence & Loveridge.

Otomys percivali Allen & Loveridge (not of Dollman), 1933, *Bull. Mus. Comp. Zool.*, **75**: 119.

Otomys uzungwensis Lawrence & Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 61. Dabaga, 6,000 feet, "Uzungwe" i.e. Uzungwa Mountains, Iringa District, Tanganyika Territory. ♀, + 6♂♂, 13 ♀♀ from Dabaga and Kigogo (not "Iringa" as printed), also Nyika Plateau, Nyasaland.

TATERA ROBUSTA SWAYTHLINGI (Kershaw).
Taterona swaythlingi Kershaw, 1921, *Ann. Mag. Nat. Hist.* (9), **8**: 565. Morogoro, 1,700 feet, Tanganyika Territory. ♀ + 14 paratypes whose sex is not mentioned.

TATERA SCHINZI LOVERIDGEI Hatt.
Tatera nyassae loveridgei Hatt, 1935, *Amer. Mus. Novit.*, No. 791: 2. Kilosa, 1,600 feet, Tanganyika Territory. ♀ + ♀.

TATERA LEUCOGASTER TABORAE (Kershaw).
Taterona taborae Kershaw, 1921, *Ann. Mag. Nat. Hist.* (9), **8**: 566. Tabora, 4,000 feet, Unyamwezi, Tanganyika Territory. ♂.

PHOLIDOTA

PHATAGINUS TRICUSPIS MABIRAE Allen & Loveridge.
Phataginus tricuspis mabirae Allen & Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 178, pl. iii fig. 2; pl. iv, figs. 1–2. Mubango, 4,000 feet, Mabira Forest, Kyagwe, Uganda. ♂.

CARNIVORA

HELOGALE IVORI Thomas.
Helogale ivori Thomas, 1919, *Ann. Mag. Nat. Hist.* (9). **4**: 31. Lumbo, mainland opposite Mozambique Island, Mozambique. ♂ + 19 others.
RHYNCHOGALE CANICEPS Kershaw.
Rhynchogale caniceps Kershaw, 1924, *Ann. Mag. Nat. Hist.* (9), **13**: 79. Outskirts of Otto Estate near Mbweni, 1,500 feet, Kilosa District, Tanganyika Territory. ♂ in Brit. Mus.
This large mongoose constitutes the second species of the genus. It was taken 600 (not 500) miles north-east of Zomba, Nyasaland, from whence came the type of *R. melleri* (Gray).

HYRACOIDEA

[DENDROHYRAX VALIDUS NEUMANNI (Matschie).]
Procavia neumanni Matschie, 1893, *Sitzber. Ges. naturf. Freunde Berlin*, p. 112. Pangani Forest near Jembiani, Zanzibar Island.
Dendrohrax adersi Kershaw, 1924, *Ann. Mag. Nat. Hist.* (9), **13**: 557. Weti (Wete), Ngezi, Pemba Island. ♂ + 1.
D. adersi was regarded as a synonym of *neumanni* in Allen's Checklist (1939: 444), but the name *adersi* escaped Swynnerton & Hayman (1951: 337). Kershaw did not overlook *neumanni* when describing *adersi*, but believed the Zanzibar animal was different. Possibly adequate series of skins from the two islands may yet reveal the two animals to be distinguishable.

ARTIODACTYLA

GUEVEI CAERULEUS PEMBAE (Kershaw).
Cephalophus melanorheus pembae Kershaw, 1924, *Ann. Mag. Nat. Hist.*, (9), **13**: 556. "Vitongozi" i.e. Vitongoji, Pemba Island. ♀ + ♂.
The Blue Forest-Duikers are now separated from the Red Forest-Duikers (*Cephalophus*) under the name of *Guevei*. See Swynnerton & Hayman (1951: 345).

BIRDS

To assess the current status of the 46 birds described from my collections as new forms, is far from easy. In part this is due to the uncertainty as to how many clines in a wide-ranging species merit recognition. Decisions are naturally influenced by personal opinion based on the material available to a reviser, at times less adequate than that assembled by the original describer! On occasion a reviser's assessment is reached too hastily under pressure to make a prompt decision in order to avoid interminable delays in the publication of some major work.

In this instance the obvious criterion is Mackworth-Praed and Claude Grant's two-volume work (1952; 1955) on "The Birds of Eastern and North-eastern Africa". It came as somewhat of a surprise to find there that only 20 of the 46 forms are recognized; those they regard as synonyms are indicated in this list by square brackets. The following table shows the proportion of each author's "new" species or races seemingly rejected by Praed & Grant.

Authors	Described	Rejected	Valid
Bangs & Loveridge	6	4	2
Bowen	2	1	1
Conover ..	1	0	1
Friedmann ..	19	11	8
Hartert	8	4	4
Neumann ..	1	0	1
Peters & Loveridge	3	1	2
van Someren, V.G.L.	6	5	1*
TOTALS	46	26	20

At times Grant may have been over-hasty in reaching his conclusions, as has been suggested by other taxonomists in his field. In the case of *Bycanistes* I was privileged to check over Friedmann's findings on separate occasions with both the late Outram Bangs and with J. L. Peters; all three of us were convinced that Friedmann was justified in recognizing two races in East Africa.

The collections made during my two tours in East Africa consisted of about 4,000 skins representing, after elimination of subsequently synonymized forms, some 736 species and races (cf. Friedmann & Loveridge, 1937, *Bull. Mus. Zool.*, **81**, pp. 1–413). Since then, during the course of five expeditions to East Africa on behalf of the Museum of Comparative Zoology, a further 3,036 skins were collected representing (again after numerous eliminations) 348 additional species or races not taken by me previously, so bringing the total up to 1,084 forms.

Unfortunately five years were allowed to elapse between the handing in, and publication in 1937, of Friedmann's manuscript on the first (1914–1923) collection. But for this deplorable hiatus, the statement that 30 or more forms were recorded from Tanganyika Territory for the first time, while the range of over 70 others were extended, would have been substantially correct. The views on validity expressed by W. E. Sclater in his "Systema Avium Aethiopicarum" (Part I, 1924; Part II, 1930) have been included in the following notes.

I take this opportunity of expressing my gratitude to Sir Charles Belcher and Dr. James P. Chapin for much help. The former supplied me with many notes and the full citations for all birds of which the allegedly new forms were regarded as synonyms by Praed & Grant. Dr. Chapin filled in the pagination of the references to Sclater and gave me the benefit of his opinion in various doubtful cases.

FRANCOLINUS SQUAMATUS USAMBARAE Conover.

Francolinus squamatus usambarae Conover, 1922, *Auk*, **45**: 356. "Loshota (Wilhelmstal)", i.e. Lushoto, 5,000 feet, Usambara Mountains, Tanganyika Territory. (Only the ♂ paratype from "Phillipshof", i.e. Magamba, 5,000 feet, was from Loveridge collection).

FRANCOLINUS SQUAMATUS UZUNGWENSIS Bangs & Loveridge.

Francolinus squamatus uzungwensis Bangs & Loveridge, 1931, *Proc. New England Zool. Club*, **12**: 93. Kigogo, 6,000 feet, Uzungwe (or Uzungwa) Mountains, Tanganyika Territory. ♂ type.

PTERNISTES AFER ITIGI Bowen.

Pternistes cranchii itigi Bowen, 1930, *Proc. Acad. Nat. Sci. Philadelphia*, **82**: 86. Gwao's Village, i.e. Ikungi, 4,700 feet, Singida District, Tanganyika Territory. ♀ type + ♂.

Praed & Grant (1952: 1: 261) recognise *itigi* as a race of *cranchii*, though Chapin pointed out in 1932 that *cranchii* (Leach) and *afer* (Müller) intergrade through the race *benguellensis* Bocage in Angola.

[SAROTHRURA ELEGANS ELEGANS (Smith).]

Gallinula elegans A. Smith, 1839, *Illus. Zool. S. Africa*, Aves, pl. xxii text. Durban, South Africa.

Sarothrura elegans languens Friedmann, 1928, *Proc. New England Zool. Club*, **10**: 68. Bagilo, 6,000 feet, Uluguru Mountains, Tanganyika Territory. ♀ type.

Not recognized by Praed & Grant (1922: 1: 305).

[HEMERODROMUS AFRICANUS GRACILIS (Fischer & Reichenow).]

Cursorius gracilis Fischer & Reichenow, 1884, *Journ. f. Orn.*, 178. Masailand, s.e. Kenya Colony.

Rhinoptilus africanus illustris Friedmann, 1928, *Proc. New England Zool. Club*, **10**: 80 Kididimo, *ca.* 3,000 feet, near Dodoma, Ugogo, Tanganyika Territory. ♂ type and ♀ from Samumba.

*Actually not mentioned by Praed & Grant; all six were based on Mozambique birds described in 1919 and 1921.

EREMIALECTOR DECORATUS LOVERIDGEI Friedmann.

Eremialector decoratus loveridgei Friedmann, 1928, *Proc. New England Zool. Club*, **10**: 79. Dodoma, 3,700 feet, Ugogo, Tanganyika Territory. ♂ type + ♂♀♀.

This race was accepted by Sclater (1930: 848), also by Praed & Grant (1952: **1**: 451).

[STREPTOPELIA CAPICOLA TROPICA (Reichenow).]

Turtur capicola tropica Reichenow, 1902, *Orn. Monatsb.*, 139. Songea, Tanganyika Territory.

Streptopelia capicola anceps Friedmann, 1928, *Proc. New England Zool. Club*, **10**: 67. Kilosa, 1,600 feet, Kilosa District, Tanganyika Territory. ♂ type + ♀♀.

This is an intermediate form which Sclater (1930: 848) considered scarcely worth separation.

Praed & Grant (1952: **1**: 473) go further and presumably regard *anceps* as a synonym of *capicola* (Sundevall) though on p. 473 they refer it to *tropica* (Reichenow).

CERCOCCYX MONTANUS PATULUS Friedmann.

Cercococcyx montanus patulus Friedmann, 1928, *Proc. New England Zool. Club*, **10**: 84. Bagilo, 6,000 feet, Uluguru Mountains, Tanganyika Territory. ♂ type.

[POICEPHALUS CRYPTOXANTHUS CRYPTOXANTHUS (Peters).]

Psittacus (*Poicephalus*) *cryptoxanthus* Peters, 1854, *Monatsb. Akad. Berlin*, 371. Inhambane, Mozambique.

Poicephalus fuscicapillus tanganyikae Bowen, 1930, *Proc. Acad. Nat. Sci. Philadelphia*, **82.**: 267. Kilosa, 1,600 feet, Kilosa District, Tanganyika Territory. ♀ type + about 18 others.

Not recognized by Praed & Grant (1952: **1**: 555).

BYCANISTES BREVIS BREVIS Friedmann.

Bycanistes cristatus brevis Friedmann, 1929, *Proc. New England Zool. Club*, **11**: 32. Mount Lutindi, 2,500 feet, Usambara Mountains, Tanganyika Territory. ♂ type + 9 more ex. Loveridge coll., + 4 others.

[RHINOPOMASTUS MINOR CABANISI (Defilippi).]

Irrisior cabanisi Defilippi, 1853, *Revue Mag. Zool.*, 289. White Nile, between 3° and 4° N., southern Sudan.

Rhinopomastus minor extimus Friedmann, 1929, *Proc. New England Zool. Club*, **11**: 29. Dodoma, 3,700 feet, Ugogo, Tanganyika Territory. ♂ type + ♂♀.

Not recognized by Praed & Grant (1952: **1**: 641).

[TYTO CAPENSIS (Smith).]

Strix capensis A. Smith, 1834, *S. Afr. Quart. Journ.* (2), 317. Cape Town, South Africa.

Tyto capensis libratus Peters & Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 77. Kaimosi, Kakamega District, Nyanza Province, Kenya Colony. ♀ type.

Not recognized by Praed & Grant (1952: **1**: 663).

[POGONIULUS BILINEATUS BILINEATUS (Sundevall).]

Megalaema bilineata Sundevall, 1850, *Sund. Oefr. Vet. Akad. Forhandl.*, 109. Natal, South Africa.

Pogoniulus bilineatus conciliator Friedmann, 1929, *Proc. New England Zool. Club*, **11**: 36. Nyange, 2,500 feet, Uluguru Mountains, Tanganyika Territory. ♀ type + ♂.

Not recognized by Praed & Grant (1952: **1**: 738).

[CAMPETHERA CAILLIAUTII CAILLIAUTII (Malherbe).]

Chrysopicos cailliautii Malherbe, 1849, *Revue Mag. Zool.* (2), **1**: 540. "Africa": Mombasa, Kenya Colony, *apud* C. Grant, 1915, Ibis, 454.

Campethera loveridgei Hartert, 1920, *Bull. Brit. Orn. Club*, **40**: 139. Morogoro, 1,700 feet, Morogoro District, Tanganyika Territory. ♀ type.

This allegedly larger-spotted woodpecker was referred to the synonymy by Sclater (1924: 295); a disposition concurred in by Friedmann (1937: 191) until such time as more material is available.

ARGYA AYLMERI LOVERIDGEI Hartert.

Argya aylmeri loveridgei Hartert, 1923, *Bull. Brit. Orn. Club*, **43**: 119. Campi-ya-bibi, southern Kenya Colony.

Recognized by Sclater (1930: 357) also Praed & Grant (1955: **2**: 96).

MALACOCINCLA RUFIPENNIS DISTANS (Friedmann).

Turdinus rufipennis distans Friedmann, 1928, *Proc. New England Zool. Club*, **10**: 48. Amani, 3,000 feet, Usambara Mountains, Tanganyika Territory. ♂ type.

Recognized by Sclater (1930: 363) who refers the bird to *Illadopsis* but Praed & Grant (1955: **2**: 100) to *Malacocincla*.

[PSEUDOALCIPPE ABYSSINICUS STIERLINGI (Reichenow).]

Turdinus stierlingi Reichenow, 1898, *Orn. Monatsb.*, **6**: 82. Iringa, 5,400 feet, Tanganyika Territory.

Lioptilus stierlingi uluguru Hartert, 1922, *Bull. Brit. Orn. Club*, 42: 50. Uluguru Mountains, Tanganyika Territory. ♀ type.

The type, originally in Tring Museum, is now in the American Museum of Natural History; a ♂ shot on the same day (3.vi.21) and a ♀ (23.v.21) are in the Museum of Comparative Zoology.

ARIZELOCICHLA NIGRICEPS NEUMANNI Hartert.

Arizelocichla neumanni Hartert, 1922, *Bull. Brit. Orn. Club*, 42: 50. Uluguru Mountains, Tanganyika Territory. ♂ type.

The type was shot on 18.v.21, and a pair of topotypes at Bagilo on 15.v.22. It was Sclater (1930: 387) who made *neumanni* a race of *nigriceps* (Shelley).

[BATIS MOLITOR SOROR Reichenow.]

Batis puella soror Reichenow, 1903, *Vögel Afr.*, 2: 485. Quilimane, Mozambique.

Batis soror pallidigula van Someren, 1921, *Bull. Brit. Orn. Club*, 41: 103. Lumbo, mainland opposite Mozambique Island, Mozambique. ♀ type + ♂.

B. s. pallidigula was considered unrecognizable by Sclater (1930: 421).

SAXICOLA TORQUATA PROMISCUA Hartert.

Saxicola torquata promiscua Hartert, 1922, *Bull. Brit. Orn. Club*, 42: 51. Uluguru Mountains, Tanganyika Territory. ♂ type.

The numerous paratypes were collected by others. Recognized by Sclater (1930: 468).

MODULATRIX STICTIGULA PRESSA Bangs & Loveridge.

Illadopsis stictigula pressa Bangs & Loveridge, 1931, *Proc. New England Zool. Club*, 12: 94. Nkuka Forest, 5,460 feet, Rungwe Mountains, Tanganyika Territory. ♀ type + ♂ ♀.

Praed & Grant (1955: 2: 302) refer *pressa* to *Modulatrix*.

TURDUS OLIVACEUS NYIKAE Reichenow.]

Turdus nyikae Reichenow, 1904, *Orn. Monatsb.*, 95. Nyika Plateau Nyasaland.

Turdus olivaceus uluguru Hartert, 1923, *Bull. Brit. Orn. Club*, 44: 6. Bagilo, 6,000 feet, Uluguru Mountains, Tanganyika Territory. ♀ type + ♂.

Subsequently two topotypic ♂ ♂ were collected at Bagilo. The form was recognized by Sclater (1930: 441), but synonymized by Praed & Grant (1955: 2: 332).

[COSSYPHA HEUGLINI INTERMEDIA (Cabanis).]

Bessornis intermedia Cabanis, 1868, *Journ. f. Orn.*, p. 412. Coastal districts of Kenya Colony

Cossypha heuglini eurynota Friedmann, 1930, *Occ. Pap. Boston Soc. Nat. Hist.*, 5: 327. Lumbo, mainland opposite Mozambique Island, Mozambique. ♀ type.

Van Someren (1932: 378) considered the characters given for this race were sexual; Friedmann (1937: 250) cited fresh evidence to the contrary; but Praed & Grant (1955: 2: 333) do not recognize it.

[BESSONORNIS ANOMALA MACCLOUNI Shelley.]

Callene macclouni Shelley, 1903, *Bull. Brit. Orn. Club*, 13: 601. Mwenembe, Nyika Plateau, Nyasland.

Bessonornis albigularis porotoensis Bangs & Loveridge, 1931, *Proc. New England Zool. Club*, 12: 94. Igale (or Igali), 6,000 feet, Poroto Mountains, Tanganyika Territory. ♀ type + ♂ ♀.

Synonymized as above by Praed & Grant (1955: 2: 333).

[SHEPPARDIA SHARPEI SHARPEI (Shelley).]

Callene sharpei Shelly, 1903, *Bull. Brit. Orn. Club*, 13: p. 60. Masisi Hill, Nyika Plateau, Nyasaland.

Sheppardia cyornithopsis bangsi Friedmann, 1930, *Occ. Pap. Boston Soc. Nat. Hist.*, 5: 323. Uluguru Mountains, Tanganyika Territory. ♂ type + ♀ ♀.

[SATHROCERCUS MARIAE USAMBARAE (Reichenow).]

Bradypterus usambarae Reichenow, 1917, *Journ. f. Orn.*, 391. Usambara Mountains, Tanganyika Territory.

Turdinus spadix Friedmann, 1927, *Proc. New England Zool. Club*, 10: 3. Nyingwa, 7,800 feet Uluguru Mountains, Tanganyika Territory. ♂ type.

Synonymized by Sclater (1930: 510), whose action is accepted by Friedmann, so not mentioned by Praed & Grant (1955: 2: 376).

APALIS PORPHYRIOLAEMA CHAPINI Friedmann.

Apalis porphyriolaema Friedmann (not of Reichenow), 1928, *Ibis*, 93.

Apalis chapini Friedmann, 1928, *Proc. New England Zool. Club*, 10: 47. Nyingwa, 7,800 feet, Uluguru Mountains, Tanganyika Territory. ♂ type + 1 ♀ from Vituri.

Recognized by Sclater (1930: 527) as a full species; by Praed & Grant (1955: 2: 415) as a race of *bamendae*. However, Chapin (*in litt.*) considers the long-tailed eastern *porphyriolaema* is specifically distinct from *bamendae* Bannerman.

[APALIS METOPIAS (Reichenow).]

Prinia metopias Reichenow, 1907, *Orn. Monatsb.*, 30. Usambara, Tanganyika Territory.

Opifex altus Friedmann, 1927, *Proc. New England Zool. Club*, **10**: 4. Nyingwa, 7,500 feet, Uluguru Mountains, Tanganyika Territory. ♀ type + ♂ ♂.

Opifex, proposed by Friedmann, being preoccupied by a culicid genus, was renamed *Artisornis* by Friedmann (1928, Ibis, 93), who subsequently (1928, Ibis, 476–478) discussed it in detail. Sclater (1930: 528) refers to it in a footnote to *Apalis ruficeps;* it is Praed & Grant (1955: **2**: 518) who synonymize it with *metopias.*

[APALIS FLAVIGULARIS GRISEICEPS Reichenow & Neumann.]

Apalis griseiceps Reichenow & Neumann, 1895, *Orn. Monatsb.*, 75. Kifinika Hut, Mount Kilimanjaro, Tanganyika Territory.

Apalis thoracica interjectiva Bangs & Loveridge, 1931, *Proc. New England Zool. Club*, **12**: 95. Kigogo, 6,000 feet, Uzungwe (or Uzungwa) Mountains, Tanganyika Territory. ♂ type.

Misspelled "*injectiva*" by Praed & Grant (1955: **2**: 519) who synonymize it as above.

APALIS EIDOS Peters & Loveridge.

Apalis eidos Peters & Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 252. Upper Mulinga River, 6,500 feet, Idjwi Island, Lake Kivu, Belgian Congo. ♂ type + 3 ♂♂ and 4 ♀♀.

Extralimital to Praed & Grant's work; recognized by Chapin (1953, Birds of the Belgian Congo, **3**: 285).

[EREMOMELA ICTEROPYGIALIS CRAWFURDI Stephenson Clarke.]

Eremomela crawfurdi Stephenson Clarke, 1911, *Bull. Brit. Orn. Club*, **29**: 43. Loita, Kenya Colony.

Eremomela flaviventris tardinata Hartert, 1923, *Bull. Brit. Orn. Club*, **43**: 149. Sagayo (or Zagayu), 4,400 feet, Maswa, Tanganyika Territory. ♀ type, with ♂ and nest.

Sclater (1930: 538) synonymized *tardinata* with *crawfurdi*, though Friedmann (1937: 268) thought otherwise. Praed & Grant (1955: **2**: 258) point out that *icteropygialis* (Lafresnaye) takes precedence over *griseoflava* Heuglin.

[TCHAGRA SENEGALA ARMENA (Oberholser).]

Pomatorhynchus senegalus armenus Oberholser, 1906, *Proc. U. S. Nat. Mus.*, **30**: 809. Taveta, Kenya Colony.

Harpolestes senegalus mozambicus van Someren, 1921, *Bull. Brit. Orn. Club*, **41**: 103. Lumbo mainland opposite Mozambique Island, Mozambique. ♂ type + 5.

Recognized by Sclater (1930: 628), but synonymized by Praed & Grant (1955: **2**: 643) with typical *senegala* (Linnaeus). However, Chapin (*in litt.*) considers this too sweeping and treats *armena* as the eastern form; he adds that as van Someren found all six *mozambicus* alike there may be a Mozambique race.

MALACONOTUS ALIUS Friedmann.

Malaconotus alius Friedmann, 1927, *Proc. New England Zool. Club*, **10**: 5. Bagilo, 6,000 feet, Uluguru Mountains, Tanganyika Territory. ♂ type + ♀.

Recognized by Sclater (1930: 637), also by Praed & Grant (1955: **2**: 638)

NEOCICHLA GUTTURALIS ANGUSTUS Friedmann.

Neocichla gutturalis angustus Friedmann, 1930, *Journ. Washington Acad. Sci.*, **20**: 434. "Muhulala" i.e. Muhalala, 3,500 feet, Manyoni District, Tanganyika Territory. ♂ type + ♀.

See also discussion by Friedmann (1937: 225–226); recognized by Praed & Grant (1955 **2**: 689).

ZOSTEROPS SILVANUS Peters & Loveridge.

Zosterops silvanus Peters & Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 77. Mount Mbololo, 4,800 feet, Taita, Kenya Colony. ♂ type + ♂ ♀ ♀.

Recognized by Praed & Grant (1955: **2**: 734).

[ZOSTEROPS VIRENS STIERLINGI Reichenow.]

Zosterops stierlingi Reichenow, 1899, *Journ. f. Orn.*, 418. Iringa, Tanganyika Territory.

Zosterops virens sarmenticia Bangs & Loveridge, 1931, *Proc. New England Zool. Club*, **12**: 95. Igale (or Igali), 6,000 feet, Poroto Mountains, Tanganyika Territory. ♂ type + 3 ♂ ♂ and 4 ♀ ♀ from Igale, + 3 ♂ ♂ and 2 ♀ ♀ from Rungwe, etc.

[CINNYRIS LEUCOGASTER Vieillot.]

Cinnyris leucogaster Vieillot, 1919, *N. Dict. d'Hist. nat.*, **31**: 1515. "Timor," error for Benguela, Angola.

Cinnyris leucogaster lumbo van Someren, 1921, *Bull. Brit. Orn. Club*, **41**: 113. Lumbo, mainland opposite Mozambique Island, Mozambique. ♂ type + 3 ♂ ♂ and 1 ♀.

Sclater (1930: 691) treated *lumbo* as synonymous with the typical form.

CINNYRIS LOVERIDGEI Hartert.

Cinnyris loveridgei Hartert, 1922, *Bull. Brit. Orn. Club*, **42**: 49. Uluguru Mountains, Tanganyika Territory. ♂ type.

In 1922 and 1926 I collected 10 ♂♂ and 6 ♀♀ from Bagilo, Nyange and Nyingwa; cf. Friedmann (1928: 91) etc. Sclater (1930: 698), though treating *loveridgei* as a race of *regius*, suggests that it may well prove to be a distinct species. This has been Praed & Grant's (1955: **2**: 790) view.

ANTHREPTES NEGLECTUS Neumann.

Anthreptes longuemarei neglectus Neumann, 1922, *Orn. Monatsb.*, **30**: 13. Uluguru Mountains, Tanganyika Territory. ♂ type.

A ♀ taken on the same day as the type, is in the Museum of Comparative Zoology. Recognized by Sclater (1930: 710) as described, but Vincent (1936, Ibis, 73) argues of *neglectus* being accorded full specific status. This has been done by Praed & Grant (1955: **2**: 814).

[ANTHREPTES LONGUEMAREI ORIENTALIS Hartlaub.]

Anthreptes orientalis Hartlaub, 1800, *Journ. f. Orn.*, 213. Lado, Southern Sudan.

Anthreptes orientalis barbouri Friedmann, 1931, *Occ. Pap. Boston Soc. Nat. Hist.*, **5**: 383. Dodoma, 3,700 feet, Ugogo, Tanganyika Territory. ♀ type + ♂.

Regarded as a synonym by Praed & Grant (1955: **2**: 821).

SPERMOPHAGA RUFICAPILLA CANA Friedmann.

Spermospiza ruficapilla cana Friedmann, 1927, *Proc. New England Zool. Club*, **10**: 7. Below Amani, *ca.* 1,400 feet, Usambara Mountains, Tanganyika Territory. ♂ type + ♀.

Recognized by Sclater (1930: 778) and Praed & Grant (1955: **2**: 988) under the generic name of *Spermophaga*. For lengthy account cf. Sclater & Moreau (1933, Ibis, 409).

[PASSER GRISEUS UGANDAE Reichenow.]

Passer diffusus ugandae Reichenow, 1904, *Vögel Afr.*, **3**: 231. Uganda.

Passer griseus mosambicus van Someren, 1921, *Bull. Brit. Orn. Club*, **41**: 114. Lumbo, mainland opposite Mozambique Island, Mozambique. ♀ type + 5.

Recognized by Sclater (1930: 724); synonymized by Praed & Grant (1955: **2**: 1052).

[MANDINGOA NITIDULA NITIDULA (Hartlaub).]

Estrilda nitidula Hartlaub, 1865, *Ibis*, 269. Natal.

Hypargos nitidula virens Friedmann, 1927, *Proc. New England Zool. Club*, **10**: 6. Amani, 3,000 feet, Usambara Mountains, Tanganyika Territory. ♂ type, + 2 ♀♀ from Bagilo.

Synonymy suggested by Sclater (1930: 785) and apparently adopted by Praed & Grant (1955: **2**: 1003) as they do not mention *virens*.

[PYTILIA MELBA GROTEI Reichenow.]

Pytilia melba grotei Reichenow, 1919, *Journ. f. Orn.*, 227. Kionga, near mouth of Rovuma River, Tanganyika Territory.

Pytilia melba mosambica van Someren, 1919, *Bull. Brit. Orn. Club*, **40**: 55. Lumbo, mainland opposite Mozambique Island, Mozambique. ♂ type + ♀.

Sclater (1930: 787) was unquestionably correct in synonymizing *mosambica* as above.

SERINUS SULPHURATUS LOVERIDGEI van Someren.

Serinus (? *flaviventris*) *loveridgei* van Someren, 1921, *Bull. Brit. Orn. Club*, **41**: 114. Lumbo, mainland opposite Mozambique Island, Mozambique. ♀ type.

Sclater (1930: 816) says "apparently" synonymous with *S. s. shelleyi* Neumann (1903, *Orn. Monatsb.*, **11**: 184) of Kafuro, Bukoba. However, Hartert (1932, Nov. Zool., **37**: 328) states that it is intermediate between *shelleyi* and *sharpei* Neumann (1900, Journ. f. Orn., 287) of Marangu, Kilimanjaro. Friedmann (1937: 391) with a pair of topotypic *loveridgei* that I collected, finds their wings smaller than those of Central African birds.

[LINURGUS KILIMENSIS KILIMENSIS (Reichenow & Neumann).]

Hyphantospiza kilimensis Reichenow & Neumann, 1895, *Orn. Monatsb.*, 74. Mt. Kilimanjaro, Tanganyika Territory.

Linurgus kilimensis rungwensis Bangs & Loveridge, 1931, *Proc. New England Zool. Club*, **12**: 96. Nkuka Forest, 5,460 feet, Rungwe Mountain, Tanganyika Territory. ♂ type + 3 topotype ♂♂ and a fifth from Igale.

REPTILES

So far all eight new genera or subgenera proposed by me (or in dual authorship) have stood the test of time. However, of the 139 new species or races of reptiles (of which 5 were described from my collections by colleagues) 18 have been synonymized—all but 6 by myself. The species to which these synonyms are assigned in the following list are placed in square brackets. Their grouping is best shown by a breakdown of the situation, thus:—

Group	Genera or subgenera	Species or races	Number synonymized
Testudinata ..	2	3	2
Sauria	4	92	14
Serpentes ..	2	44	2

The majority of the new forms are African, as is shown by the undermentioned figures, for, when doing routine identifications of Asiatic or American material one hesitated to describe as new any but the most obvious things.

Asia (Borneo & Philippine Ids.) ..	5
Americas (Mexico to Brazil) ..	7
Australia (and New Guinea) ..	16
Africa (also Madagascar, etc.) ..	111
Total ..	139

To facilitate ready reference, genera and species are listed alphabetically. Families are arranged in accordance with my 1957 "Check List of the Reptiles and Amphibians of East Africa (Uganda; Kenya; Tanganyika; Zanzibar)" in the *Bull. Mus. Comp. Zool.*, **117**, No. 2, pp. 153–362 + i-xxxvi. Some of the literature required in connection with these synonymies has not been available to me on St. Helena. Consequently I have had to to importune my late colleague Ben Shreve, as well as Drs. R. F. Inger and R. G. Zweifel, all of whom have come to my assistance with information for which I am most grateful.

TESTUDINATA

Aldabrachelys Loveridge & Williams.

Aldabrachelys Loveridge & Williams, 1957, *Bull. Mus. Comp. Zool.*, **115**: 225.

A subgenus, with *Testudo gigantea* Schweigger of Aldabra and Madagascar as genotype.

[Malacochersus tornieri (Siebenrock).]

Testudo tornieri Siebenrock, 1903, *Anz. Akad. Wiss. Wien.*, **40**: 185. Busisi, Smith Sound, Lake Victoria, Tanganyika Territory.

Testudo loveridgii Boulenger, 1920, *Compte Rendus Acad. Sci. (Paris)*, **170**: 263. Dodoma, 3,700 feet, Tanganyika Territory. ♂, ♀ + 5.

? *Testudo procterae* Loveridge, 1923, *Proc. Zool. Soc. London*, p. 298, pls. i-ii. Ikikuyu, about 50 miles s. of Gulwe Railway Station, Tanganyika Territory. Juv. holotype.

Whether Procter's Soft-shelled Land-Tortoise should be referred to the synonymy must remain questionable until a series is collected from Ikikuyu. In coloration and head scalation, especially in its large and elongate prefrontals, *procterae* differs from every one of more than a hundred *tornieri* that I collected.

Pseudotestudo Loveridge & Williams.

Pseudotestudo Loveridge & Williams, 1957, *Bull. Mus. Comp. Zool.*, **115**: 276, figs. 22–25.

A subgenus, with *Testudo kleinmanni* Lortet of north-east Africa as genotype.

Testudo (geochelone) pardalis babcocki Loveridge.

Testudo pardalis babcocki Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 4. Mount Debasien (= Kadam), at 5,500 feet, Karamojo, Uganda. ♀ + 13 others from various localities.

Confirmation of the validity of the Eastern Leopard Tortoise will be found in Loveridge & Williams, 1957, Bull. Mus. Comp. Zool., **115**: 235–251—a monograph of the terrestrial and marine Cryptodira of all Africa; but Williams would refer *pardalis* to *Geochelone* which he regards as a full genus.

LACERTILIA

GEKKONIDAE

Afroedura Loveridge.

Afroedura Loveridge, 1944, *American Mus. Novit.*, No. 1254: 1.

A genus, allied to *Oedura* of Australia, with *Afroedura karroica bogerti* Loveridge of Angola as genotype.

Afroedura karroica bogerti Loveridge.

Afroedura karroica bogerti Loveridge, 1944, *American Mus. Novit.*, No. 1254: 1, fig. 1. Namba (Mombolo), Cuanza Sul Province, Angola. ♂.

BOGERTIA Loveridge.
Bogertia Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 195.
A genus, somewhat intermediate between *Gehyra* and *Perochirus* with *B. lutzae* Loveridge as genotype.

BOGERTIA LUTZAE Loveridge.
Bogertia lutzae Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 196. Near Pituba, Sao Salvador, Bahia, Brazil. Seven cotypes, of which 5 are in the Museu Nacional do Brasil.

CNEMASPIS AFRICANUS ELGONENSIS Loveridge.
Cnemaspis africanus elgonensis Loveridge, 1936, *Proc. Zool. Soc. London*, 820. Above Sipi, 6,500 feet, Mount Elgon, Uganda. ♀, + 3 ♂ ♂, 1 ♀, 4 young from 2 localities.

GYMNODACTYLUS SERPENSINSULA Loveridge.
Gymnodactylus serpensinsula Loveridge, 1951, *Proc. Biol. Soc. Washington*, **64**: 91. Serpent Island, north-east of Mauritius. ♀.

HEMIDACTYLUS ALBOPUNCTATUS Loveridge.
Hemidactylus albopunctatus Loveridge, 1947, *Bull. Mus. Comp. Zool.*, **98**: 107. New name for *Teratolepis taylori* Parker (1942), preoccupied by *H. taylori* Parker (1932).

HEMIDACTYLUS MANDANUS Loveridge. See *H. mercatorius* Gray.

[HEMIDACTYLUS MERCATORIUS Gray.]
Hemidactylus mercatorius Gray, 1842, *Zool. Misc.*, p. 58. Madagacar.
Hemidactylus persimilis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 140, pl. iv figs. 1, 3. Dar es Salaam, Tanganyika Territory. ♂, + 14 from 2 localities.
Hemidactylus mandanus Loveridge, 1936, *Proc. Biol. Soc. Washington*, **49**: 60. Kitau, Manda Island, Kenya Colony. ♀.
These unfortunate redescriptions resulted from *H. mercatorius* having been mistakenly relegated by Boulenger (1885) to the synonymy of *H. mabouia* Moreau de Jonnés.

HEMIDACTYLUS PARKERI Loveridge. See *H. puccionii* Calabresi.

HEMIDACTYLUS PERSIMILIS Barbour & Loveridge. See *H. mercatorius* Gray.

[HEMIDACTYLUS PUCCIONII Calabresi.]
Hemidactylus puccionii Calabresi, 1927, *Atti. Soc. Ital. Sci. Nat. (Milano)*, **66**: 23, 39, pl. i, figs. 3–3b. Obbia to Durgale, Somalia.
Hemidactylus parkeri Loveridge, 1936, *Proc. Biol. Soc. Washington*, **49**: 59. Zanzibar Island (? introduced). ♂.

HEMIDACTYLUS SQUAMULATUS BARBOURI Loveridge.
Hemidactylus tropidolepis barbouri Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 320, fig. –. Changamwe, 192 feet, near Mombasa, Kenya Colony. ♀, + 15 from 3 localities.

HEMIDACTYLUS TANGANICUS Loveridge.
Hemidactylus tanganicus Loveridge, 1929, *U. S. Nat. Mus. Bull.* No. 151: 42, pl. i. "Duthumi" i.e. Dutumi, near Kisaki, Morogoro District, Tanganyika Territory. ♀.

[HOMOPHOLIS WAHLBERGII (Smith).]
Geko wahlbergii (sic) A. Smith, 1849 Illus. Zool. S. Africa, Rept., pl. lxxv, figs. 1-1a: Kafferland eastward of Cape Colony.
Homopholis wahlbergii arnoldi Loveridge, 1944, *Proc. Biol. Soc. Washington*, **54**: 2. Mahalapsi River, Bechuanaland Protectorate. ♂, + 10 from 4 localities.
The characters on which *arnoldi* was based now prove to be quite unstable according to Dr. Arnold and, more recently, Mr. D. G. Broadley who has gone into the matter carefully.

LYGODACTYLUS CAPENSIS MOSSAMBICA Loveridge. *See L. g. grotei* Sternfeld.

[LYGODACTYLUS CONRAUI Tornier.]
Lygodacutylus conraui Tornier, 1902, *Zool. Jahrb. Syst.*, **15**: 670, pl. xxxv, fig. 3. Bipindi, French Cameroon & Fernando Po.
Lygodactylus strongi Barbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**: 18. Firestone Plantation No. 3, Du River, Liberia.
The additional "u" in the generic name was inserted by the printer *after* return of correct page proof.

[LYGODACTYLUS GROTEI GROTEI Sternfeld.]
Lygodactylus Grotei Sternfeld, 1911, *Sitzb. Ges. Naturf. Freunde Berlin*, p. 245. Mikindani, etc., Tanganyika Territory.
Lygodactylus capensis mossambica Loveridge, 1920, *Proc. Zool. Soc. London*, p. 135. Lumbo, mainland opposite Mozambique Island, Mosambique. ♂ & ♀ cotypes + 48.

LYGODACTYLUS GROTEI PAKENHAMI Loveridge.
Lygodactylus grotei pakenhami Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 176. Wete, Pemba Island. ♀, + 2 ♂ ♂, 2 ♀ ♀ from 2 localities.

LYGODACTYLUS MANNI Loveridge. *See L. p. picturatus* (Peters).

[LYGODACTYLUS PICTURATUS PICTURATUS (Peters).]
Hemidactylus picturatus Peters, 1870, *Monatsb. Akad. Wiss. Berlin*, p. 115. New name for *H. variegatus* Peters (1868) preoccupied.
Lygodactylus manni Loveridge, 1928, *Proc. U. S. Nat. Mus.*, **72**, Art. 24, pp. 1–2, pl.i. Saranda, 3,500 feet, Manyoni District, Tanganyika Territory. ♂ with peculiar spotted throat.

LYGODACTYLUS PICTURATUS MOMBASICUS Loveridge.
Lygodactylus picturatus mombasicus Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 198. Kilindini, Mombasa Island, Kenya Colony. ♂, + 34 ♂ ♂, 25 ♀ ♀ from 8 localities.

LYGODACTYLUS PICTURATUS SUDANENSIS Loveridge.
Lygodactylus picturatus sudanensis Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 197. Abu Zor, Senaar, Sudan. ♂, + 4 ♂ ♂, 3 ♀ ♀ from 5 localities.

LYGODACTYLUS PICTURATUS UKEREWENSIS Loveridge.
Lygodactylus picturatus ukerewensis Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 199. Ukerewe Island, 4,213 feet, Lake Victoria, Tanganyika Territory.

LYGODACTYLUS PICTURATUS WILLIAMSI Loveridge.
Lygodactylus picturatus williamsi Loveridge, 1952, *Journ. E. Africa Nat. Hist. Soc.*, vol. "**xx**: 446" = **21**: 39. Kimboza Forest, 1,000 feet, Eastern Province, Tanganyika Territory. ♂.

LYGODACTYLUS SOMALICUS Loveridge.
Lygodactylus somalicus somalicus Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 196. Bar Madobe, 2,300 feet, Nogal Valley, Somaliland. ♂ + 2 ♂ ♂, 4 ♀ ♀.
Lygodactylus somalicus annectens Loveridge, 1935, *Proc. Biol. Soc. Washington*, **48**: 197. Buran District, Somaliland. ♀, + 7 ♂ ♂, 10 ♀♀ from 7 localities.

LYGODACTYLUS STRONGI Barbour & Loveridge. *See L. conraui* Tornier.

NEPHRURUS WHEELERI Loveridge.
Nephrurus wheeleri Loveridge, 1932, *Proc. New England Zool. Club*, **13**: 31. Yandil, 30 miles north-west of Wiluna, Western Australia. ♀ + 6.
The catalogue numbers should read M.C.Z. 32950–32956, and not as printed.

PACHYDACTYLUS CAPENSIS RHODESIANUS Loveridge.
Pachydactylus capensis rhodesianus Loveridge, 1947, *Bull. Mus. Comp. Zool.*, **98**: 384. Empandeni, Southern Rhodesia. ♂, + 6 from 3 localities.

PACHYDACTYLUS LAEVIGATUS FITZSIMONSI Loveridge.
Pachydactylus laevigatus fitzsimonsi Loveridge, 1947, *Bull. Mus. Comp. Zool.*, **98**: 400. New name for *P. l. tessellatus* FitzSimons (1938), preoccupied by *P. tessellatus* Werner (1910).

PACHYDACTYLUS SCUTATUS ANGOLENSIS Loveridge.
Pachydactylus scutatus angolensis Loveridge, 1944, *American Mus. Novit.*, No. 1254: 3. Hanha, Benguela Province, Angola. ♂, + ♂, ♀ (of which one is in the M.C.Z.).

PACHYDACTYLUS TETENSIS Loveridge.
Pachydactylus tetensis Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 175, pl. v. fig. 3. Mwanza Rocks, Kasumbadedza, near Tete, Mozambique. ♂, + ♂ from Tanganyika Territory.
Subsequently abundant material of this big gecko has been secured in the Kariba Dam area of the Zambezi, Southern Rhodesia, by Donald G. Broadley, Esq.

PHELSUMA BARBOURI Loveridge.
Phelsuma barbouri Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 439, 458. Forest between Tamatave and Tananarivo, eastern Madagascar. ♀ + 2 ♀ ♀.

PHELSUMA MADAGASCARIENSIS PARKERI Loveridge.
Phelsuma madagascariensis parkeri Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 175. Kinowe, Pemba Island. ♀, + 4 ♂ ♂, 1 ♀, 1 juv. from Kinazini Island.

TROPICOLOTES TRIPOLITANUS ALGERICUS Loveridge.
Tropicolotes tripolitanus algericus Loveridge, 1947, *Bull. Mus. Comp. Zool.*, **98**: 56. Kenatsa. (Kenadsa), south of Colomb Bechar, western Algerian Sahara. ♂.

AGAMIDAE

AGAMA AGAMA DODOMAE Loveridge.
Agama lionotus var. *dodomae* Loveridge. 1923, *Proc. Zool. Soc. London*, 944. Dodoma, 3,700 feet, Tanganyika Territory. 35 Cotypes.
Described as a form of *lionotus* Boulenger, which itself eventually proved to be but a race of *A. agama* (Linnaeus).

[AGAMA AGAMA ELGONIS Lönnberg.]
Agama elgonis Lönnberg, 1922, *Arkiv. Zool.*, **14**, No. 12: 2. Mount Elgon, Kenya Colony.
Agama agama turuensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 376; also **74**: 299, col. pl. ii, fig. 1. Unyanganyi, Turu, Singida District, Tanganyika Territory. ♂ + 49.

AGAMA AGAMA KAIMOSAE Loveridge. *See A. planiceps caudospina* Meek.

AGAMA AGAMA TURUENSIS Loveridge. *See A. a. elgonis* Lonnberg.

AGAMA AGAMA UFIPAE Loveridge.
Agama agama ufipae Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 377; also **74**: 300, col. pl. ii. fig. 3. Near Kipili, Ufipa, Tanganyika Territory.

AGAMA AGAMA USAMBARAE Barbour & Loveridge.
Agama colonorum usambarae Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 150, col. pl. ii, fig. 1. Soni, Usambara Mountains, Tanganyika Territory. ♂ + 6 ♂♂, 6 ♀♀ 1 juv.

AGAMA COLONORUM USAMBARAE Barbour & Loveridge. *See A. a. usambarae.*

AGAMA KIRKII FITZSIMONSI Loveridge.
Agama kirkii fitzsimonsi Loveridge, 1950, *Proc. Biol. Soc. Washington*, **63**: 128. Changadz River, affluent of Sabi River, Southern Rhodesia. ♂ + 6 ex. from many localities.

AGAMA LIONOTUS DODOMAE Loveridge. *See A. agama dodomae* Loveridge.

AGAMA MOSSAMBICA MONTANA Barbour & Loveridge.
Agama mossambica montana Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 147. Below Bagilo about 4,500 feet, Uluguru Mountains, Tanganyika Territory. ♂, + 40 from 9 localities.

[AGAMA PLANICEPS CAUDOSPINA Meek.]
Agama caudospina Meek, 1910, *Field Mus. Nat. Hist. Zool. Series*, **7**: 407. Lake Elmenteita, Kenya Colony.
Agama agama kaimosae Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 10. Near Kaimosi, Kakamega, Kenya Colony. ♂ + 7 ♂♂, 11 ♀♀.

AGAMA PLANICEPS MWANZAE Loveridge.
Agama lionotus var. *mwanzae* Loveridge, 1923, *Proc. Zool. Soc. London*, p. 945. Shanwa, 4,400 feet, Maswa, Tanganyika Territory. 41 cotypes from 3 localities.

AMPHIBOLURUS BARBATUS MINIMUS Loveridge.
Amphibolurus barbatus minimus Loveridge, 1933, *Proc. New England Zool. Club*, **13**: 69. West Wallabi Island, Houtman's Albrohos, Western Australia. ♀ + 7.

AMPHIBOLURUS DARLINGTONI Loveridge.
Amphibolurus darlingtoni Loveridge, 1932, *Proc. New England Zool. Club*, **13**: 33. Mullewa, Western Australia. ♂ + 3 ♀♀.

PHYSIGNATHUS GILBERTI CENTRALIS Loveridge.
Physignathus gilberti centralis Loveridge, 1933, *Proc. New England Zool. Club*, **13**: 71. Anningie, 30 miles west of Teatree Well, Northern Territory, central Australia. ♂ + 1 imm.

CHAMAELEONIDAE

BICUSPIS Loveridge.
Bicuspis Loveridge, 1956, Breviora (*Mus. Comp. Zool.*), No. 59: 2.
A subgenus, intermediate between *Brookesia* and *Chamaeleo*, with *Rhampholeon marshalli* Boulenger of Southern Rhodesia as genotype.

BROOKESIA BRACHYURA IONIDESI Loveridge.
Brookesia ionidesi Loveridge, 1951, *Bull. Mus. Comp. Zool.*, **106**: 179. Kilwa, Southern Province, Tanganyika Territory. ♂, + 6 ♂ ♂, 21 ♀♀ from 2 localities.

BROOKESIA NCHISIENSIS Loveridge.
Brookesia nchisiensis Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 190, pl. iii, fig. 1. Nchisi Forest, 5,000 feet, Nchisi Mountain, Nyasaland. ♀ + 37 from 7 localities.

BROOKESIA PLATYCEPS CARRI Loveridge.
Brookesia platyceps carri Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 194, fig. A, pl. iii, fig. 2. Lichenya Plateau, 6,000 feet, Mlanje Mountain, Nyasaland. ♀, + 3 ♂ ♂ from Ruo Gorge between 3,000 and 3,500 feet.

CHAMAELEO BITAENIATUS ALTAEELGONIS Loveridge.
Chamaeleon bitaeniatus altaeelgonis Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 15. Kaburomi, 10,500 feet, Mount Elgon, Uganda. ♂ + 21 ♂ ♂, 30 ♀ ♀.

CHAMAELEO FISCHERI ULUGURUENSIS Loveridge.
Chamaeleo fischeri uluguruensis Loveridge, 1957 ("June, 1956"), *Tanganyika Notes Rec.*, No. 43: 3. Kingokwa, Uluguru Mountains, Tanganyika Territory. ♂ + ♀.

CHAMAELEO GOETZEI NYIKAE Loveridge.
Chamaeleo goetzei nyikae Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 189. Nyika Plateau, above Nchenachena at 7,500 feet, Nyasaland. ♀ + 1 ♂, 3 ♀ ♀.

CHAMAELEO INCORNUTUS Loveridge.
Chamaeleon incornutus Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 380; also **74**: 340, pl. iii, fig. 4. Madehani, 7,000 feet, Ukinga Mountains, Tanganyika Territory. ♂, + 20 from 3 localities.

CHAMAELEO LATERISPINIS Loveridge.
Chamaeleon laterispinis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 381; also **74**: 341, pl. iii, fig. 3. Kigogo, 6,000 feet, Uzungwe (or Uzungwa) Mountains, Tanganyika Territory. ♂ + 2 ♂ ♂.

[CHAMAELEO WERNERI Tornier.]
Chamaeleon werneri Tornier, 1899, *Zool. Anz.*, **22**: 258, fig. 1. "Maschona-Gebiet," later corrected to Uzungwe Mountains, Uhehe, Tanganyika Territory.
Chamaeleon werneri dabagae Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 379; also **74**: 339, pl. iii, fig. 5. Dabaga, 6,000 feet, Uzungwe (Uzungwa) Mountains, Tanganyika Territory. ♂ + 2 ♂ ♂, 2 ♀ ♀.

SCINCIDAE

ACONTIAS PERCIVALI Loveridge.
Acontias percivali Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 13. Foot of Mount Mbololo, 2,000 feet, Teita Mountains, Kenya Colony. ♀ + 43.

LEIOLOPISMA. *See Lygosoma*, of which it is a subgenus.

LYGOSOMA (LEIOLOPISMA) ELEGANTOIDES LOBULUS Loveridge.
Lygosoma (*Leiolopisma*) *elegantoides lobulus* Loveridge, 1945, *Proc. Biol. Soc. Washington.* **58**: 49. Mount Wilhelm, 7,500 to 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♂ + 15.

LYGOSOMA (LEIOLOPISMA) FUSCUM JAMNANUM Loveridge.
Lygosoma (*Leiolopisma*) *fuscum jamnanum* Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**:363. Jamna Island, Dutch New Guinea. ♀.

LYGOSOMA (LEIOLOPISMA) HAWAIIENSIS Loveridge. *See L.* (*L*). *metallicum* O'Shaughnessy.

[LYGOSOMA (LEIOLOPISMA) METALLICUM (O'Shaughnessy).
Mocoa metallica O'Shaughnessy, 1874, *Ann. Mag. Nat. Hist.* (4), **13**: 299.
Leiolopisma hawaiiensis Loveridge, 1939, *Proc. Biol. Soc. Washington*, **52**: 1. Near Honolulu, Oahu, Hawaiian Islands. Type, + 3 from Wahiawa, Oahu.
That this was an introduction, was detected by Oliver & Shaw (1953, *Zoologica*, **38**: 90).

LYGOSOMA (LEIOLOPISMA) PREHENSICAUDA Loveridge.
Lygosoma (*Leiolopisma*) *prehensicauda* Loveridge, 1945, *Proc. Biol. Soc. Washington*, **58**: 48. Mount Wilhelm, 7,500 to 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♂ + ♂.

LYGOSOMA (LEIOLOPISMA) SLEVINI Loveridge.
Lygosoma slevini Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 193. Mount Canala, New Caledonia. ♀.

LYGOSOMA (LYGOSOMA) DARLINGTONI Loveridge.
Lygosoma darlingtoni Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 98. Millaa Millaa, Atherton Tableland, Queensland. ♀, now in Queensland Museum.

[LYGOSOMA (SIAPHOS) KILIMENSE Stejneger.]
Lygosoma kilimensis Stejneger, 1891, *Proc. U.S. Nat. Mus.*, **14**: 405. Mount Kilimanjaro, Tanganyika Territory.
Siaphos dewittei Loveridge, 1934, *Copeia*, p. 184. New name for *L.* (*S.*) *compressicauda* de Witte (1933), preoccupied by *L.* (*H.*) *compressicaudum* Werner (1897).

[LYGOSOMA (SIAPHOS) MELEAGRIS Boulenger.]
Lygosoma meleagris Boulenger, 1907, *Ann. Mag. Nat. Hist.* (7), **19**: 488. Mubuku Valley, 7,000 feet, Ruwenzori Mountains, Uganda.
Siaphos meleagris helleri Loveridge, 1932, *Proc. Biol. Soc. Washington*, **45**: 113. Bugongo Ridge, 9,500 feet, Ruwenzori Mountains, Belgian Congo (*not* Uganda side). Aberrant ♀.

LYGOSOMA (SPHENOMORPHUS) LEAE BROOKSI Loveridge.
Sphenomorphus leae brooksi Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 95. Perth, Western Australia. ♂.

LYGOSOMA (SPHENOMORPHUS) SCHEVILLI Loveridge.
Sphenomorphus schevilli Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 96. Army Downs, 35 miles northerly of Richmond, Queensland. ♂, now in Queensland Museum.

LYGOSOMA (SPHENOMORPHUS) VARIEGATUM STICKELI Loveridge.
Lygosoma (*Sphenomorphus*) *variegatum stickeli* Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 345. Gusiko, Australian New Guinea. ♀ + 15.

MABUYA BAYONII KENIENSIS Loveridge.
Mabuya bayonii keniensis Loveridge, 1956, Breviora (*Mus. Comp. Zool.*), No. 59: 2. Northern Uaso (Guaso) Nyiro, Sotik, Kenya Colony.

MABUYA BOCAGEI MLANJENSIS Loveridge.
Mabuya bocagei mlanjensis Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 207. Lichenya Plateau, 6,000 feet, Mlanje Mountain, Nyasaland. ♂ + 7.

MABUYA HILDAE Loveridge.
Mabuya hildae Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 209. Nyika Plateau, above Nchenachena, 7,000 to 7,500 feet, Nyasaland. ♀ + 4 ♂♂, 2 ♀♀, 2 juv.

MELANOSEPS ATER MATENGOENSIS Loveridge.
Melanoseps ater matengoensis Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 361. Ugano, 4,000 to 6,000 feet, Matengo Highlands, west of Songea, Tanganyika Territory. 12 cotypes, of which 11 are in Vienna Museum.

MELANOSEPS ATER MISUKUENSIS Loveridge.
Melanoseps ater misukuensis Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 220. Misuku Mountains, 6.000 feet, Nyasaland. ♀ + 24.

MELANOSEPS ATER RONDOENSIS Loveridge.
Melanoseps ater rondoensis Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 360. Nchingidi, 2,000 feet, Rondo Plateau, Lindi District, Tanganyika Territory. ♂ + 23.

MELANOSEPS ATER UZUNGWENSIS Loveridge.
Melanoseps ater uzungwensis Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 361. Kigogo, 6,000 feet, Uzungwe (Uzungwa) Mountains, Tanganyika Territory. ♀ + ♀.

RHODONA NICHOLLSI Loveridge.
Rhodona nichollsi Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 97. Dalgaranger Station, 50 miles north-east of Yalgoo, Western Australia. Holotype in Mus. Comp. Zool.

RIOPA MABUIIFORMIS Loveridge.
Riopa mabuiiformis Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 12. Ngatana, about 300 feet, Tana River, Kenya Colony. ♂ + 5.

RIOPA TANAE Loveridge.
Riopa tanae Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 11. Kau, near mouth of Tana River, Kenya Colony. ♀, + 13 from 4 localities.

SCELOTES AENEUS Barbour & Loveridge.
Scelotes aeneus Barbour & Loveridge, 1928, *Proc. New England Zool. Club*, **10**: 63. Lumbo, mainland opposite Mozambique Island, Mozambique. ♀ + 7.

SCELOTES POECILOPUS Barbour & Loveridge.
Scelotes poecilopus Barbour & Loveridge, 1928, *Proc. New England Zool. Club*, **10**: 65. Tamatave, eastern Madagascar. Holotype.

SCELOTES ULUGURUENSIS Barbour & Loveridge.

Scelotes uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 167, pl. iv. fig. 6. Bagilo, 5,000—6,000 feet, Uluguru Mountains, Tanganyika Territory. ♂, + 12 from 2 localities.

Referable to *Proscelotes* Witte & Laurent (1943), should it prove to be a recognizable genus, or subgenus of *Scelotes*.

SCOLECOSEPS Loveridge.

Scolecoseps Loveridge, 1920, *Proc. Zool. Soc. London*, p. 159.

A genus, intermediate between *Melanoseps* and *Acontias*, with *Scolecoseps boulengeri* Loveridge as genotype.

SCOLECOSEPS BOULENGERI Loveridge.

Scolecoseps boulengeri Loveridge, 1920, *Proc. Zool. Soc. London*, 159, fig. 1. Lumbo, mainland opposite Mozambique Island, Mozambique. ♂ and ♀ cotypes in Brit. Mus., + 5 elsewhere.

SIAPHOS. *See Lygosoma*, of which it is a subgenus.

SPHENOMORPHUS. *See Lygosoma*, of which it is a subgenus.

Some recent authors prefer to treat these groups as full genera, though when all their numerous species are considered there is a tendency for the separating characters to weaken.

TROPIDOPHORUS DARLINGTONI Loveridge.

Tropidophorus darlingtoni Loveridge, 1945, *Proc. Biol. Soc. Washington*, **58**: 47. Mount Wilhelm, 5,000 to 6,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♀ + 2 juv.

GERRHOSAURIDAE

CORDYLUS UKINGENSIS (Loveridge).

Zonurus ukingensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 378; also **74**: 301, pl. iii, fig. 2. Tandala, 5,000 feet, Ukinga Mountains, Tanganyika Territory.

GERRHOSAURUS FLAVIGULARIS FITZSIMONSI Loveridge.

Gerrhosaurus flavigularis fitzsimonsi Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **89**: 514. Mount Mbololo, at about 4,000 feet, Teita Mountains, Kenya Colony. ♀, + 12 from 7 localities.

PLATYSAURUS GUTTATUS FITZSIMONSI Loveridge.

Platysaurus guttatus fitzsimonsi Loveridge, 1944, *Bull. Mus. Comp. Zool.*, **95**: 4, 5, and 88. Lydenburg, Transvaal. ♂.

PLATYSAURUS GUTTATUS NYASAE Loveridge.

Platysaurus guttatus nyasae Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 237. Blantyre-Tete Road at about 1,000 feet, south of Mpatamanga Bridge, Nyasaland. ♂ + ♀.

PLATYSAURUS MITCHELLI Loveridge.

Platysaurus mitchelli Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 234. Ruo River Forest, 3,000 feet, Mlanje Mountain, Nyasaland. ♂ + 18.

PSEUDOCORDYLUS LANGI Loveridge.

Pseudocordylus langi Loveridge, 1944, *Bull. Mus. Comp. Zool.*, **95**: 4, 5 and 73. Mount-aux-Sources, Drakensberg, Basutoland. ♂.

After examining the type, Dr. V. FitzSimons is satisfied as to the validity of *langi;* but some or all of the lizards from the same series in the Transvaal Museum—which I designated paratypes without having seen them—are not *langi*.

ZONURUS. *See Cordylus*, of which it is a synonym.

LACERTIDAE

BEDRIAGAIA MOREAUI Loveridge.

Bedriagaia moreaui Loveridge, 1936, *Proc. New England Zool. Club*, **15**: 67, figs. –. Amani, 3,000 feet, Usambara Mountains, Tanganyika Territory.

NUCRAS BOULENGERI KILOSAE Loveridge.

Nucras kilosae Loveridge, 1922, *Proc. Zool. Soc. London*, 314. "Tindiga" i.e. Tendigo, 5 miles south of Kilosa, Usagara, Tanganyika Territory. 6 ♂ ♂, 1 ♀ cotypes.

TEIIDAE

AMEIVA UNDULATA MIADIS Barbour & Loveridge.
Ameiva festiva miadis Barbour & Loveridge, 1929, *Bull. Mus. Comp. Zool.*, **69**: 141. Great Corn Island, Caribbean, 40 miles off coast of Nicaragua.
Vaguely referred by Dunn (1940, *Proc. Acad. Nat. Sci. Philadelphia*, **92**: 115) without allocation of any particular race, to *Ameiva undulata* (Wiegmann) of Mexico.

ECPLEOPUS LUTZAE Loveridge. See *Placosoma c. cordylinum* Tschudi.

[PLACOSOMA CORDYLINUM CORDYLINUM Tschudi.]
Placosoma cordylinum Tschudi, 1847, *Arch. Naturg.*, **13** (1): 51. "Northern Brazil" (in error).
Ecpleopus lutzae Loveridge, 1944, *Proc. Biol. Soc. Washington*, **57**: 97. Above Beija-Flor River, about 3,500 feet, Theresopholis, Rio de Janeiro, Brazil. 2 cotypes, of which 1 is in the Museu Nacional da Brasil.
Synonymized by Uzzel (1959, *Occ. Papers Mus. Zool. Univ., Michigan*, No. 606: 3).

PTYCHOGLOSSUS NICEFORI (Loveridge).
Anadia nicefori Loveridge, 1929, *Proc. Biol. Soc., Washington*, **42**: 99. Rio Garagoa at Macanal eastern Andes, Colombia. ♂.
Allocated to *Ptychoglossus* by Dunn (1944, *Caldesia:* 67).

AMPHISBAENIDAE

AMPHISBAENA MPWAPWAENSIS Loveridge.
Amphisbaena mpwapwaensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 378; also **74**: 304, pl. iii, fig. 1. Mpwapwa, 3,315 feet, Ugogo, Tanganyika Territory.

AMPHISBAENA RONDOENSIS Loveridge.
Amphisbaena rondoensis Loveridge, 1941, *Bull. Mus. Comp. Zool.*, **87**: 394, fig. 23. Nchingidi, 2,000 feet, Rondo Plateau, Lindi District, Tanganyika Territory. ♂ + 47.

ANCYLOCRANIUM BARKERI Loveridge.
Ancylocranium barkeri Loveridge, 1942, *Proc. Biol. Soc., Washington*, **59**: 73, pl. xiii. Mbemkuru River, Lindi District, Tanganyika Territory. ♂.

ANCYLOCRANIUM IONIDESI Loveridge.
Ancylocranium ionidesi Loveridge, 1955, *Journ. E. Africa Nat. Hist. Soc.*, **22**: 177, figs. Kilwa, Southern Province, Tanganyika Territory. ♂, + juv. also 2 ♀ ♀ from Kilongo, Kilwa.

PLACOGASTER DEGRYSI Loveridge.
Placogaster degrysi Loveridge, 1941, *Bull. Mus. Comp. Zool.*, **87**: 400. Lagos, Sierra Leone. Type in Hamburg Museum.

SERPENTES

TYPHLOPIDAE

TYPHLOPS EXCENTRICUS Procter. See *T. schlegelii excentricus* Procter.

TYPHLOPS KAIMOSAE Loveridge.
Typhlops kaimosae Loveridge, 1935, *Bull. Mus. Zool.*, **79**: 5. Kaimosi, Kakamega, Kenya Colony. Holotype.

TYPHLOPS MANNI Loveridge.
Typhlops manni Loveridge, 1941, *Proc. U.S. Nat. Mus.*, **91**: 118. Harbel, Liberia. Holotype in U.S. Nat. Mus.

TYPHLOPS SCHLEGELII EXCENTRICUS Procter.
Typhlops excentricus Procter, 1922, *Ann. Mag. Nat. Hist.* (9), **9**: 685. Kilosa, 1,600 feet, Tanganyika Territory. Holotype in Brit. Mus.

TYPHLOPS STEJNEGERI Loveridge.
Typhlops stejnegeri Loveridge, 1931, *Copeia*, p. 92, figs. 1–2. Luebo District, Belgian Congo. Type + paratype in U.S. Nat. Mus.

TYPHLOPS TETTENSIS RONDOENSIS Loveridge.
Typhlops tettensis rondoensis Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 256. Nchingidi, 2,000 feet, Rondo Plateau, Lindi District, Tanganyika Territory. Type + 4.

TYPHLOPS TOVELLI Loveridge.
Typhlops tovelli Loveridge, 1945, *Proc. Biol. Soc. Washington*, **58**: 111. Koonowarra Sports Ground, 5 miles south of Darwin, Northern Territory, Australia. 1 + 1.

TYPHLOPS ULUGURUENSIS Barbour & Loveridge.
Typhlops uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 104. Nyange, 2,500 feet, Uluguru Mountains, Tanganyika Territory. ♂ + 3.

LEPTOTYPHLOPIDAE

LEPTOTYPHLOPS EMINI PEMBAE Loveridge.
Leptotyphlops emini pembae Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 177. Wingwi Pwana, Pemba Island. ♀, + 5 from 4 localities.

LEPTOTYPHLOPS MAXIMA Loveridge.
Leptotyphlops maxima Loveridge, 1932, *Proc. Biol. Soc., Washington*, **45**: 151. Chilpancingo, 4,000 to 6,000 feet, Guerrero, Mexico. ♂ + 3.

BOIDAE

ERYX COLBURINUS LOVERIDGEI Stull.
Eryx thebaicus loveridgei Stull, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 29, pl. ii, fig. B. "Mbunyi" i.e. Mbuyuni, Kenya Colony. ♂ + 3 ♀♀, from as many localities.

COLUBRIDAE

AMBLYODIPSAS KATANGENSIS IONIDESI Loveridge.
Amblyodipsas katangensis ionidesi Loveridge, 1951, *Bull. Mus. Comp. Zool.*, **106**: 193. Tunduru, Southern Province, Tanganyika Territory. ♀, + 9 from 2 localities.

APARALLACTUS JACKSONI OWENI Loveridge.
Aparallactus jacksoni oweni Loveridge, 1956 ("1955"), *Sudan Notes Rec.*, **36**: 51 (15 of reprint). Torit, Equatoria Province, Sudan.

APARALLACTUS TURNERI Loveridge.
Aparallactus turneri Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 9. Sokoki Forest, near Malindi, Kenya Colony. ♂, + 5 from 3 localities.

[APARALLACTUS GUENTHERI Boulenger.]
Aparallactus guentheri Boulenger, 1895, *Ann. Mag. Nat. Hist.* (6), **16**: 172. "East and Central Africa" (omit Angola).
Aparallactus uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 132. Nyange, 2,500 feet, Uluguru Mountains, Tanganyika Territory. ♂, + 9 from 2 localities.
Apart from *A. guentheri* being a composite, the principal factor leading to this redescription was the strikingly different appearance of the collared young (*guentheri*) from the uniformly black adults (*uluguruensis*), of which I collected ten.

CALAMARIA LUMBRICOIDEA GRISWOLDI Loveridge.
Calamaria lumbricoidea griswoldi Loveridge, 1938, *Proc. Biol. Soc., Washington*, **51**: 43. Luidan River, near Bundutuan, about 3,340 feet, Mount Kinabalu, North Borneo. ♀ + ♀.

CERBERUS RYNCHOPS NOVAEGUINEAE Loveridge.
Cerberus rynchops novaeguineae Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 388. Merauke, Dutch New Guinea. ♂ + 3.

CHERSYDRUS GRANULATUS LUZONENSIS Loveridge.
Chersydrus granulatus luzonensis Loveridge, 1938, *Proc. Biol. Soc., Washington*, **51**: 209. Near Laguna de Bay, Los Banos, Laguna Province, Luzon, Philippine Islands. ♂.

CHILORHINOPHIS CARPENTERI LIWALENSIS Loveridge.
Chilorhinophis carpenteri liwalensis Loveridge, 1951, *Bull. Mus. Comp. Zool.*, **106**: 196. Liwale, 2,100 feet, Southern Province, Tanganyika Territory. ♀, + 55 from 3 localities.

CHILORHINOPHIS GERARDI TANGANYIKAE Loveridge.
Chilorhinophis gerardi tanganyikae Loveridge, 1951, *Bull. Mus. Comp. Zool.*, **106**: 195. Nyamkolo, Lake Tanganyika, Northern Rhodesia. ♂, + ♂ and ♀ from 2 localities.

[COLUBER FLORUNLENTULUS SMITHI (Boulenger).]
Zamenis smithi Boulenger, 1895, *Proc. Zool. Soc., London*, 536, pl. xxx, fig. 2. Shebeli River, Somalia.

Coronella semiornata fuscorosea Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 8. Mount Mbololo, at about 4,000 feet, Teita Mountains, Kenya Colony. ♂ + 2, and a juv. from Tsavo.

CORONELLA SEMIORNATA FUSCOROSEA Loveridge. See *Coluber* above.

CROTAPHOPELTIS WERNERI SHREVEI Loveridge.
Crotaphopeltis shrevei Loveridge, 1932, *Proc. Biol. Soc., Washington*, **45**: 83. Missao de Dondi, Bella Vista, via Lobito, Angola. ♂.
Subsequently found in Northern Rhodesia and on the Rondo Plateau, south-east Tanganyika Territory.

DASYPELTIS MEDICI LAMUENSIS Gans.
Dasypeltis medici lamuensis Gans, 1957, Breviora (*Mus. Comp. Zool*), No. 79: 1. Lamu Island, Kenya Colony.
Based on a pair of egg-eaters obtained during my 1933–1934 Expedition (together with paratypes from elsewhere); separated from *medici* by Dr. C. Gans during the course of his revision of the genus.

GEODIPSAS PROCTERAE Loveridge.
Geodipsas procterae Loveridge, 1922, *Proc. Zool. Soc., London*, 313. About 3,000 feet, Uluguru Mountains, Tanganyika Territory. ♂ in Brit. Mus.
Two more, taken in 1926, in the Mus. Comp. Zool. at Harvard.

LAMPROPELTIS THAYERI Loveridge.
Lampropeltis thayeri Loveridge, 1924, *Occ. Papers Boston Soc. Nat. Hist.*, **5**: 137. Miquihuana, Tamaulipas, Mexico. ♂.

LYCODONOMORPHUS RUFULUS MLANJENSIS Loveridge.
Lycodonomorphus rufulus mlanjensis Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 253. Ruo River, 2,350 feet, Mlanje Mountain, Nyasaland. ♂, + 2 ♂ ♂, 1 ♀ from 2 localities.

LYCOPHIDION CAPENSE UZUNGWENSE Loveridge.
Lycophidion capense uzungwensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 375. Dabaga, 6,000 feet, Uzungwe (Uzungwa) Mountains, Tanganyika Territory. ♂ + ♀.

NATRICITERES Loveridge.
Natriciteres Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 248.
A genus, intermediate between *Natrix* and *Neusterophis*, with *Coronella olivacea* Peters of Tropical Africa as genotype.

NATRICITERES OLIVACEA PEMBANA (Loveridge).
Natrix olivacea pembana Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 8. Chakechake, Pemba Island. ♀.
A somewhat doubtful form depending on whether 75 per cent of Pemba snakes have only 15 midbody scalerows.

NATRICITERES OLIVACEA ULUGURUENSIS (Loveridge).
Natrix olivacea uluguruensis Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 7. Nyange, 2,500 feet, Uluguru Mountains, Tanganyika Territory. ♀, + 61 from 3 mountain ranges.

PHILOTHAMNUS HETERODERMUS RUANDAE Loveridge.
Philothamnus heterodermus ruandae Loveridge, 1951, *Bull. Inst. roy. Sci. nat. Belgique*, **27**, No. 37: 2. Mulungu, Lake Kivu, Belgian Congo. ♀, + 1 ♂, 3 ♀ ♀ from 4 localities.

PHILOTHAMNUS IRREGULARIS BATTERSBYI Loveridge.
Philothamnus irregularis battersbyi Loveridge, 1951, *Bull. Mus. Comp. Zool.*, **106**: 191. Sipi Forest, 6,000 feet, Mount Elgon, Uganda. ♀, + 39 ♂ ♂, 77 ♀ ♀ from 26 localities.

PROSYMNA AMBIGUA ORNATISSIMA Barbour & Loveridge.
Prosymna ornatissima Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 120, col. pl. ii, fig. 2. Nyange, 2,500–3,500 feet, Uluguru Mountains, Tanganyika Territory. ♀, + 3 from 2 localities.

PROSYMNA MELEAGRIS LAURENTI Loveridge.
Prosymna meleagris laurenti Loveridge, 1958, *Bull. Mus. Comp. Zool.*, **119**: 141. Mongalla, Equatoria Province, Sudan. ♂.

PSAMMOPHIS BISERIATUS TANGANICUS Loveridge.
Psammophis biseriatus tanganicus Loveridge, 1940, *Bull. Mus. Comp. Zool.*, **87**: 57. Mangasini, about 3,500 feet, Usandawi, Tanganyika Territory. ♀, + 20 from 6 localities.

PSAMMOPHYLAX TRITAENIATUS MULTISQUAMIS (Loveridge).
Trimerorhinus tritaeniatus multisquamis Loveridge, 1932, *Proc. Biol. Soc. Washington*, **45**: 84. Nairobi, 5,452 feet, Kenya Colony. ♀, + 41 from many montane localities.

THRASOPS AETHIOPISSA ELGONENSIS (Loveridge).

Rhamnophis aethiopissa elgonensis Loveridge, 1929, *U.S. Nat. Mus. Bull. No.* 151: 24. Yala (= Lukosa) River, south of Mount Elgon, Kenya Colony. ♀ (M.C.Z. 18198; not as printed), + 5.

As suggested when *elgonensis* was being described, the characters of *Rhamnophis* scarcely justify its separation from *Thrasops*.

THRASOPS JACKSONII SCHMIDTI Loveridge.

Thrasops jacksonii schmidti Loveridge, 1936, *Proc. Biol. Soc. Washington*, **49**: 63. Meru Forest, Mount Kenya, Kenya Colony. ♂, + 3 in Coryndon and Royal Scottish Museums.

ELAPIDAE

ACANTHOPHIS ANTARCTICUS RUGOSUS Loveridge.

Acanthophis antarcticus rugosus Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 392. Merauke, Dutch New Guinea. ♂ + 1 head.

BUNGARUS FLAVICEPS BALUENSIS Loveridge.

Bungarus flaviceps baluensis Loveridge, 1938, *Proc. Biol. Soc. Washington*, **51**: 44. Kenokok River, near Kiau, about 3,300 feet, Mount Kinabalu, British North Borneo. ♂ + ♂, ♀.

DENDROASPIS JAMESONI KAIMOSAE Loveridge.

Dendraspis jamesoni kaimosae Loveridge, 1936, *Proc. Biol. Soc. Washington*, **49**: 64. Kaimosi, Kakamega, Kenya Colony. ♂, + 13 from various localities, in Coryndon and other museums.

ELAPSOIDEA SUNDEVALLII FITZSIMONSI Loveridge.

Elapsoidea sundevallii fitzsimonsi Loveridge, 1944, *Bull. Mus. Comp. Zool.*, **95**: 229. Gomodimo Pan, Kalahari Desert, Bechuanaland. ♂, + 4 from 4 localities.

ELAPSOIDEA SUNDEVALLII LOVERIDGEI Parker.

Elapsoidea sundevallii loveridgei Parker, 1949, *Zool. Verhand. Rijksmus. Nat. Hist. Leiden*, No. 6: 95. Machakos, Kenya Colony. ♀ in Brit. Mus., + 7 from 4 localities, but only 1 coll. A.L.

MATICORA INTESTINALIS IMMACULATA Loveridge.

Maticora intestinalis immaculata Loveridge, 1944, *Proc. Biol. Soc. Washington*, **57**: 105. Marudi, Baram River, Sarawak, Borneo. ♂.

Attention is directed to an unfortunate printer's error in the key to the genus on p. 106. There, under section "3", *after* proof had been passed by both author and editor, the printer presumably dropped the type, then substituted "*i. bilineata*" for "*i. intestinalis*" so that the former appears twice in the Synopsis.

PARANAJA Loveridge.

Paranaja Loveridge, 1944, *Bull. Mus. Comp. Zool.*, **95**: 231.

A genus, intermediate between *Elapsoidea* and *Naja*, with *Naia multifasciata* Werner (1902) as genotype.

VIPERIDAE

ATHERIS BARBOURI Loveridge.

Atheris barbouri Loveridge, 1930, *Proc. New England Zool. Club*, **11**: 107. Dabaga, 6,000 feet, Uzungwe (Uzungwa) Mountains, Tanganyika Territory. ♀ + 2 ♂ ♂.

CROTALIDAE

TRIMERESURUS SUMATRANUS MALCOLMI Loveridge.

Trimeresurus sumatranus malcolmi Loveridge, 1938, *Proc. Biol. Soc. Washington*, **51**: 45. Sungii River near Bundutuan, about 3,000 feet, Mount Kinabalu, British North Borneo. ♂, + 2 ♀ ♀ from near Kiau.

AMPHIBIANS

Three of the 4 genera proposed by my colleagues or by me are peculiar and unquestionably valid. Of the 91 new species or races of amphibians (of which 6 were described from my collections by colleagues) 12 have been synonymized—all but 3 by myself. The species to which these synonyms are assigned in the following list are placed in square brackets.

The majority of the new forms are African, as follows:

America (Nicaragua)	1
Australia (and New Guinea) ..	21
Africa	69
TOTAL..	91

The arrangement of species, genera and families is explained in the last paragraph of the introductory remarks on the Reptiles.

AMPHIBIA

CAECILIIDAE

BOULENGERULA CHANGAMWENSIS Loveridge.
Boulengerula changamwensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 381. Changamwe, 192 feet, near Mombasa, Kenya Colony. Type + 3.

BOULENGERULA TAITANUS Loveridge.
Boulengerula taitanus Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 16. Mount Mbololo at 4,800 feet, Teita Mountains, Kenya Colony. ♂ + 29.

BOULENGERULA ULUGURUENSIS Barbour & Loveridge.
Boulengerula uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 183. Vituri, 2,000 feet, Uluguru Mountains, Tanganyika Territory. 1, + 42 from 4 localities.

SCOLECOMORPHUS ATTENUATUS Barbour & Loveridge.
Scolecomorphus attenuatus Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 181. Nyingwa, 7,500 feet, Uluguru Mountains, Tanganyika Territory. ♀, + 1.

SCOLECOMORPHUS KIRKII ULUGURUENSIS Barbour & Loveridge.
Scolecomorphus uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 180. Nyingwa, 7,500 feet, Uluguru Mountains, Tanganyika Territory. ♂, + 132 (many ♀ ♀) from 2 localities.

PIPIDAE

XENOPUS LEAVIS BUNYONIENSIS Loveridge.
Xenopus laevis bunyoniensis Loveridge, 1932, *Proc. Biol. Soc. Washington*, **45**: 114. Bufundi, Lake Bunyoni (Bunyonyi), Kigezi District, Uganda. ♀ + 173.

BUFONIDAE

BUFO KATANGANUS Loveridge.
Bufo katanganus Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 46. Lofoi, Katanga, Belgian Congo. ♀ + ♂, both in Brit. Mus.

BUFO KISOLOENSIS Loveridge.
Bufo regularis kisoloensis Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 52. Kisolo, about 6,900 feet, Kigezi District, Uganda. ♂ + 42 adults in Chicago *Nat. Hist. Mus.*
Subsequently I synonymized *kisoloensis* with *regularis*, but now bow to the opinion of Laurent, supported by Inger, for both regard it as a full species sympatric with *regularis*.

BUFO LÖNNBERGI NAIROBIENSIS Loveridge.
Bufo lönnbergi nairobiensis Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 48. Nairobi, 5,452 feet, Kenya Colony. ♂ + 6 ♂ ♂, 3 ♀ ♀ in Brit. Mus.

BUFO LUGHENSIS Loveridge.
Bufo lughensis Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 49. Between Lugh and Matagoi, Somalia. ? ♀ in Brit. Mus.

BUFO MICRANOTIS MICRANOTIS Loveridge.
Bufo micranotis Loveridge, 1925, *Proc. Zool. Soc. London*, p. 770, pl. i, fig. 1. Kilosa, 1,600 feet, Tanganyika Territory. ♀, + 2 ♂ ♂ from 2 localities.

BUFO MICRANOTIS RONDOENSIS Loveridge.
Bufo micranotis rondoensis Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 387. Nchingidi, 2,000 feet, Rondo Plateau, Lindi District, Tanganyika Territory. Type + 10 (whose numbers are M.C.Z. 25091–25100: not 35091–35100 as printed).

BUFO OSGOODI Loveridge.
Bufo osgoodi Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 47. Ethiopia. ♀ in Chicago Nat. Hist. Mus.

BUFO PARKERI Loveridge.
Bufo parkeri Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 382. Mangasini, about 4,000 feet, Usandawi, Tanganyika Territory. ♂ + 29.

BUFO TAITANUS BEIRANUS Loveridge.
Bufo taitanus beiranus Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, **8**: 45. Beira, Mozambique. ♀ in Brit. Mus.

BUFO TAITANUS NYIKAE Loveridge.
Bufo taitanus nyikae Loveridge, 1953, *Bull. Mus. Comp. Zool.*, 110: 339. Nyika Plateau, above Nchenachena at 7,500 feet, Nyasaland. ♀ + 9 ♂ ♂, 3 ♀ ♀, 3 juv.

BUFO TAITANUS UZUNGUENSIS Loveridge.
Bufo taitanus uzunguensis Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 44. Kigogo 6,000 feet, Uzungwe (Uzungwa) Mountains, Tanganyika Territory. ♀, + 6 from 5 localities.

BUFO URUNGUENSIS Loveridge.
Bufo urunguensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, 72: 383. Kitungulu, 4,500 feet, Ufipa, Tanganyika Territory. ♀ + 3.

BUFO USHORANUS Loveridge.
Bufo ushoranus Loveridge, 1932, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 45. Ulugu, about 4,000 feet, Ushora, Singida, Tanganyika Territory. ♀, + ♂ from Nyambiti, Kwimba.

LEPTODACTYLIDAE

CRINIA DARLINGTONI Loveridge.
Crinia darlingtoni Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 57. Queensland National Park, 3,000 to 4,000 feet, McPherson Range, Queensland. ♀ + 3.

CRINIA GLAUERTI Loveridge.
Crinia glauerti Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 57. Mundaring Weir, about 30 miles north-east of Perth, Western Australia. ♀ + 2.

CYCLORANA SLEVINI Loveridge.
Cyclorana slevini Loveridge, 1950, *Proc. Biol. Soc. Washington*, 63: 131. Noondoo, south-eastern Queensland, Australia. ♀ + ♂.

GLAUERTIA Loveridge.
Glauertia Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 89.
A genus, related to *Pseudophryne*, with *G. russelli* Loveridge as genotype.

GLAUERTIA RUSSELLI Loveridge.
Glauertia russelli Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 89. Bank of a creek flowing into Gascoyne River near Landor Station, Western Australia. Type, apparently ♂, in Western Australia Mus., + 24.

HELIOPORUS INSULARIS Loveridge.
Helioporus insularis Loveridge. 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 92. Rottnest Island, Western Australia. Gravid ♀ + 5. juv.

MIXOPHYES FASCIOLATUS SCHEVILLI Loveridge.
Mixophyes fasciolatus schevilli Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 55. Millaa Millaa, Atherton Tableland, Queensland. ♀, + 4 from other localities. Dr. Moore finds this race unrecognisable.

PSEUDOPHRYNE BLANCHARDI Loveridge.
Pseudophryne blanchardi Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 91. Millgrove, Victoria, Australia. ♀ + ♂ + 12. Now regarded as a synonym of *P. semimarmorata* (of Parker 1940, *Novit. Zool.*, 42: 99).

PSEUDOPHRYNE BROOKSI Loveridge.
Pseudophryne brooksi Loveridge, 1933, *Occ. Papers Boston Soc. Nat. Hist.*, 8: 59. Manjimup, near Pemberton, Western Australia. Type + 9. Now regarded as a synonym of *P. guentheri* (of Parker 1940, *Novit. Zool.* 42: 96).

HYLIDAE

HYLA ANGULARIS Loveridge.
Hyla angularis Loveridge, 1945, *Proc. Biol. Soc. Washington*, 58: 54. Mount Wilhelm, 5,000 to 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♂.

HYLA AUREA ULONGAE Loveridge.
Hyla aurea ulongae Loveridge, 1950, *Proc. Biol. Soc. Washington*, 63: 133. Ulong, north-eastern New South Wales, Australia. ♂.

HYLA BECKI Loveridge.
Hyla becki Loveridge, 1945, *Proc. Biol. Soc. Washington*, 58: 55. Mount Wilhelm, 7,500 to 10,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♂ + 39 juv.

HYLA BRONGERSMAI Loveridge.

Hyla brongersmai Loveridge, 1945, *Proc. Biol. Soc. Washington*, **58**: 56. Panara (not "Parana") Valley, central Dutch New Guinea. ♂.

The type locality is corrected and given as 3° 35′S., 138° 30′ to 138° 35′E by Forcart (1953, *Verh. naturf. Ges. Basel*, **64**: 59) with additional topotypes.

HYLA DARLINGTONI Loveridge.

Hyla darlingtoni Loveridge, 1945, *Proc. Biol. Soc. Washington*, **58**: 53. Mount Wilhelm, 5,000 to 8,000 feet, Bismarck Range, Madang Division. Australian New Guinea. Gravid ♀.

Status confirmed by Zweifel (1958, *American Mus. Novit.*, No. 1896: 42), who refers to its synonymy *Nyctimystes flavomaculatum* Forcart (1953).

HYLA KINGHORNI Loveridge.

Hyla kinghorni Loveridge, 1950, *Proc. Biol. Soc. Washington*, **63**: 132. Ulong, north-eastern New South Wales, Australia. ♂.

[HYLA THESAURENSIS Peters.]

Hyla thesaurensis Peters, 1877, *Monatsb. Akad. Wiss. Berlin*, p. 421. Treasury Island, Solomon Islands (28 mm. Type).

Nyctimystes milneana Loveridge, 1945, *Proc. Biol. Soc. Washington*, **58**: 57. Milne Bay, Eastern Division, Papua. ♀ (48 mm.).

Synonymized by Zweifel (1958, *American Mus. Novit.*, No. 1896: 43) after reassessing the characters formerly attributed to *Nyctimystes*.

NYCTIMYSTES MILNEANA Loveridge. *See Hyla thesaurensis* Peters.

RHACOPHORIDAE

[AFRIXALUS FORNASINI FORNASINI (Bianconi).]

Euchnemis Fornasini Bianconi, 1849 (for 1848), *Nuovi Ann. Sci. Nat.* (2), **10**: 107, pl. v, fig. 1. Mozambique.

Megalixalus loveridgii Procter, 1920, *Proc. Zool. Soc. London*, p. 418, fig. 4. Morogoro, 1,700 feet, Tanganyika Territory. ♀ Holotype in Brit. Mus.

AFRIXALUS ULUGURUENSIS (Barbour & Loveridge).

Megalixalus uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 231, col. pl. iii, fig. 2. Vituri, 2,000 feet, Uluguru Mountains, Tanganyika Territory. ♀ + 17 from 3 localities.

HYLAMBATES COCHRANAE Loveridge.

Hylambates cochranae Loveridge, 1941, *Proc. U.S. Nat. Mus.*, **91**: 125. Bendaja, Liberia. ♂ cotype in *U.S. Nat. Mus.* + ♀ cotype in Mus. Comp. Zool.

HYPEROLIUS ARGUS AHLI Loveridge.

Hyperolius ahli Loveridge, 1936, *Bull. Mus. Comp. Zool.*, **79**: 402. Lake Peccatoni, about 100 feet, north-east of Witu, Kenya Colony. ♂ + 42 from 8 localities.

[HYPEROLIUS CONCOLOUR TUBERILINGUIS Smith.]

Hyperolius tuberilinguis A. Smith, 1849, *Illus. Zool. S. Africa, Rept., App.*, p. 26. Country eastward of Cape Colony, i.e. Natal, South Africa.

Hyperolius sansibaricus loveridgei Laurent, 1947, *Ann. Mag. Nat. Hist.* (11), **14**: 294. Kitaya, 300 feet, Rovuma River, Tanganyika Territory. ♀ + many.

HYPEROLIUS FESTIVUS Barbour & Loveridge.

Hyperolius festivus Barbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**: 17: also 1930, in Richard Strong, Report of the Harvard African Exped. . . . Liberia and the Belgian Congo, **2**: 783, col. pl. 465, fig. 6. Firestone Plantation No. 3, Du River, Liberia. ♀ + 2.

HYPEROLIUS KNYSNAE Loveridge.

Hyperolius knysnae Loveridge, 1954, *Ann. Natal Mus.*, **13**: 95. Knysna. Cape Province, South Africa. ♀ + 3 ♀♀.

HYPEROLIUS MARIAE Barbour & Loveridge.

Hyperolius mariae Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 217, col. pl. iii, fig. 1. Derema (Ndarema), 2,000 feet, Usambara Mountains, Tanganyika Territory. ♀.

HYPEROLIUS PARKERI PARKERI Loveridge.

Hyperolius parkeri Loveridge, 1933, *Bull. Mus. Comp. Zool.*, **74**: 410. Mogogoni Swamp, south of Dar es Salaam, Tanganyika Territory. ♀, + 21 from 2 localities.

HYPEROLIUS PARKERI ROVUMAE Loveridge.
Hyperolius parkeri rovumae Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 410 col. pl. iii, figs. 5–6. Kitaya, 300 feet, Rovuma River, Tanganyika Territory. ♀ + 13.

HYPEROLIUS POWERI Loveridge.
Hyperolius poweri Loveridge, 1938, *Proc. Biol. Soc. Washington*, **51**: 213. Umvoti River, near Stanger ("Stranger" in original was editor's alteration), Natal, South Africa. ♂ + 3 ♂ ♂, 2 juv.

HYPEROLIUS PUNCTICULATUS CHOLOENSIS Loveridge.
Hyperolius punctículatus choloensis Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 359, fig. 1. Cholo Mountain, 3,500 feet, Nyasaland. ♀, + 1 ♂, 1 ♀ from 2 localities.

HYPEROLIUS PUNCTICULATUS MITCHELLI Loveridge.
Hyperolius punctículatus mitchelli Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 360, fig. 2. Near lakeshore north of Mtimbuka, 1,550 feet, Lake Nyasa, Nyasaland. ♀ + ♂ + juv.

[HYPEROLIUS PUSILLUS (Cope).]
Crumenifera pusilla Cope, 1862, *Proc. Acad. Nat. Sci. Philadelphia*, p. 343. Umvoti, Natal.
Hyperolius usaramoae Loveridge, 1932, *Proc. Biol. Soc. Washington*, **45**: 63. Mogogoni Swamp, south of Dar es Salaam, Tanganyika Territory. ♂ + ♀.
Hyperolius milnei Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 18. Witu, Coast Province, Kenya Colony. ♂ + 75.
The heavily spotted *milnei* from north-east Kenya appears to differ from *pusillus* of Natal, but so many intermediate stages occur in the intervening 2,000 miles that it seems advisable to disregard subspecies.

[HYPEROLIUS RHODOSCELIS (Boulenger).]
Rappia rhodoscelis Boulenger, 1901, *Ann. Mus. Congo* (1), **2**, fasc. 1, pl. 3, pl. ii, figs. 1–1a. Pweto, Lake Mweru, Belgian Congo.
Rappia platyrhinus Procter, 1920, *Proc. Zool. Soc. London*, p. 416, fig. 3. Nairobi, 5,452 feet, Kenya Colony. ♂.
I follow Laurent (1951) who refers *platyrhinus* to the synonymy of *rhodoscelis*.
HYPEROLIUS SANSIBARICUS LOVERIDGEI Laurent. See *H. c. tuberilinguis* Smith.

[LEPTOPELIS AUBRYI (Duméril).]
Hyla aubryi A. Duméril, 1856, *Revue. Mag. Zool.* (2), **8**: 561. Gabon, French Congo.
Leptopelis barbouri Ahl., 1929, *Sitzb. Ges. Naturf. Freunde*, p. 199. Mount Lutindi, 4,000 feet, Usambara Mountains, Tanganyika Territory. 2 adults, 9 juv.
Named by Ahl on geographical grounds from material collected by me that he had never seen. Admittedly an astonishing case of discontinuous distribution.

LEPTOPELIS BEQUAERTI Loveridge.
Leptopelis bequaerti Loveridge, 1941, *Proc. U.S. Nat. Mus.*, **91**: 129. Gbanga, Liberia. ♀, + 1 ♂, 2 ♀ ♀, 1 juv. from 3 localities.

LEPTOPELIS PARKERI Barbour & Loveridge.
Leptopelis parkeri Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 236, pl. iv, figs. 9–10. Vituri, 2,000 feet, Uluguru Mountains, Tanganyika Territory. 1 ♀.
Subsequently a score of frogs from Vituri and Bagilo were referred to this species.

LEPTOPELIS ULUGURUENSIS Barbour & Loveridge.
Leptopelis uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 235, pl. iii, fig. 3. Nyange, 2,500 feet, Uluguru Mountains, Tanganyika Territory. ♀ + 21 from Vituri.

MEGALIXALUS. See *Afrixalus* Laurent.

RAPPIA. See *Hyperolius* Rapp.

RANIDAE

ARTHROLEPTIDES DUTOITI Loveridge.
Arthroleptides dutoiti Loveridge, 1935, *Bull. Mus. Comp. Zool.*, **79**: 17. Koitobos River, 7,200 feet, Mount Elgon, Kenya Colony. ♀ + ♂ and juv.

ARTHROLEPTIS ADOLFIFRIEDERICI FRANCEI Loveridge.
Arthroleptis adolfifriederici francei Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 387. Banks of Ruo River just below Ruo Falls, about 5,000 feet, Mlanje Mountain, Nyasaland. ♀ + 29.

ARTHROLEPTIS BEQUAERTI Barbour & Loveridge.
Arthroleptis bequaerti Barbour & Loveridge, 1929, *Proc. New England Zool. Club*, **11**: 25. Mount Vissoke, 8,000–9,000 feet, Belgian Congo. ♀ + 24.

ARTHROLEPTIS DECORATA (Barbour & Loveridge.).
Cardioglossa decorata Barbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**: 15; also, 1930, in Richard Strong, Report of the Harvard African Exped. . . . Liberia and the Belgian Congo, **2**: 781, col. pl. 464, fig. 1. Gbanga, Liberia. ♂ + 6.
Generic status corrected by Parker (1936, *Zool. Meded.*, **19**: p. 92.)

ARTHROLEPTIS LAWRENCEI Loveridge.
Arthroleptis lawrencei Loveridge, 1954, *Ann. Natal Mus.*, **13**: 97. Town Bush, Pietermaritzburg, Natal, South Africa. ♀ + 25.

ARTHROLEPTIS LIBERIENSIS (Barbour & Loveridge).
Cardioglossa liberiensis Barbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**: 16; also 1930, in Richard Strong, Report of the Harvard African Exped. . . . Liberia and the Belgian Congo, **2**: 781, col. pl. 464, fig. 2. Peahtah, St. Paul's River, Liberia. ♀.
Generic status corrected by Parker (1936, *Zool. Meded.*, **19**: p. 92).

[ARTHROLEPTIS STENODACTYLUS WHYTII Boulenger.]
Arthroleptis whytii Boulenger, 1897, *Proc. Zool. Soc. London*, pp. 801–802, pl. xlvi, fig. 3. "Masuka" i.e. Misuku Mountains, Nyasaland (restricted).
Arthroleptis stenodactylus uluguruensis Loveridge, 1932, *Proc. Biol. Soc. Washington*, **48**: 61. Nyingwa, 7,500 feet, Uluguru Mountains, Tanganyika Territory. ♀ + 55 from 11 localities.

ARTHROLEPTIS RUNGWENSIS Loveridge. See *Phrynobatrachus rungwensis*.

ARTHROLEPTIS UKINGENSIS Loveridge. See *Phrynobatrachus ukingensis*.

ARTHROLEPTIS XENODACTYLOIDES NKUKAE Loveridge.
Arthroleptis xenodactyloides nkukae Loveridge, 1942, *Bull. Mus. Comp. Zool.*, **91**: 427. Nkuka Forest, 5,460 feet, Rungwe Mountain, Tanganyika Territory. ♀, + 352 from 4 localities.

ARTHROLEPTIS XENODACTYLOIDES NYIKAE Loveridge.
Arthroleptis xenodactyloides nyikae Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 383. Foot of uppermost Nchenachena Falls about 7,000 feet Nyika Plateau, Nyasaland. ♀ + 17 from 2 localities.

CARDIOGLOSSA DECORATA and LIBERIENSIS Barbour & Loveridge. See *Arthroleptis*.

PHRYNOBATRACHUS DUCKERI Loveridge.
Phrynobatrachus duckeri Loveridge, 1953, *Bull. Mus. Comp. Zool.* **110**: 377. Cotton Growers Experimental Station Dam, 1,982 feet, Chitala River, Nyasaland. ♀ + 3 ♂ ♂, 9 others.

PHRYNOBATRACHUS GASTONI Barbour & Loveridge.
Phrynobatrachus gastoni Barbour & Loveridge, 1928, *Proc. New England Zool. Club*, **10**: 88. Buta, Lower Uelle, Belgian Congo. ♀.

PHRYNOBATRACHUS KENIENSIS Barbour & Loveridge.
Phrynobatrachus keniensis Barbour & Loveridge, 1928, *Proc. New England Zool. Club*, **10**: 89. North-east slope of Mount Kenya, Kenya Colony. ♀.

PHRYNOBATRACHUS LIBERIENSIS Barbour & Loveridge.
Phrynobatrachus liberiensis Barbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**: 14; also 1930, in Richard Strong, Report of the Harvard African Exped. Liberia and the Belgian Congo, **2**: 780, col. pl. 464, fig. 4. Bangah (Gbanga), Liberia. ♀ + 7.

PHRYNOBATRACHUS PAKENHAMI Loveridge.
Phrynobatrachus pakenhami Loveridge, 1941, *Proc. Biol. Soc. Washington*, **54**: 178. Machengwe Swamp, near Wete, Pemba Island. ♀ + 2 ♂ ♂, 2 ♀ ♀.

PHRYNOBATRACHUS RUNGWENSIS (Loveridge).
Arthroleptis rungwensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 386. Ilolo, 4,600 feet, Rungwe Mountain, Tanganyika Territory. ♀.

PHRYNOBATRACHUS UKINGENSIS UKINGENSIS (Loveridge).
Arthroleptis ukingensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 385. Madehani, 7,000 feet, Ukinga Mountains, Tanganyika Territory. ♀, + 5 from 2 localities.

PHRYNOBATRACHUS UKINGENSIS NYIKAE Loveridge.
Phrynobatrachus ukingensis nyikae Loveridge, 1953, *Bull. Mus. Comp. Zool.*, **110**: 380. Nyika Plateau, above Nchenchena at 7,000 feet, Nyasaland. ♀ + 102.

PSEUDOXENOPUS Barbour & Loveridge. See *Rana* (*Conraua* Nieden).

[RANA ALBOLABRIS PARKERIANA Mertens.]
Rana albolabris parkeriana Mertens, 1938, *Abhend. Senckenberg, Naturf. Ges.* 442, p. 14.
Rana albolabris parkeriana Loveridge, 1941, *Proc. U.S. Nat. Mus.*, **91**: 136. New name for *R. a. acutirostris* Parker (1936) of Angola, preoccupied by *R. acutirostris* Fatio (1872) of Europe.
By a curious coincidence both Dr. Mertens and I selected the same name for Parker's Angolan frog. I was unaware of his action until after the war.

RANA (CONRAUA Nieden, subgenus).
Conraua Nieden, 1908, *Mitt. Zool. Mus. Berlin*, **3**: 497. Type by monotypy: *Conraua robusta* Nieden (preoccupied in *Rana* by *robusta* Blyth, so renamed *niedeni* by Parker, 1936).
Pseudoxenopus Barbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**: 14. Type by monotypy: *Pseudoxenopus alleni* Barbour & Loveridge.
Though proposed as a genus, *Pseudoxenopus* is only a synonym of a subgenus of *Rana*.

RANA CRASSIPES ALLENI (Barbour & Loveridge).
Pseudoxenopus alleni Borbour & Loveridge, 1927, *Proc. New England Zool. Club*, **10**:14; also 1930, in Richard Strong, Report of the Harvard African Exped. . . . Liberia and the Belgian Congo, **2**:778, col. pl. 464, fig. 3. Firestone Plantation no. 3, Du River, Liberia. A juvenile lacking vomerine teeth.

[RANA FLOWERI Boulenger.]
Rana floweri Boulenger, 1917, *Ann. Mag. Nat. Hist.* (8), **20**:417. Rosaires, Blue Nile, Sudan.
Rana barbouri Loveridge, 1925, *Proc. Zool. Soc. London*, p. 776, pl. i. fig. 2. "Nyambita" i.e. Nyambiti, 4,000 feet, Kwimba, Tanganyika Territory. ♀.

RANA GRISEA MILNEANA Loveridge.
Rana grisea milneana Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 414. Kwatto Branch Mission, 50 feet, Milne Bay, Papua. ♀.

RANA LOVERIDGEI (Laurent).
Ptychadena loveridgei Laurent, 1954, *Ann. Mus. Royal Congo Belge*, **34**: 14, pl. i, fig. 4; pl. ii, fig. 1; pl. iii, figs. 3–4. Tare, Buzanza, about 1,800 metres, Astrida Region, Belgian Ruanda-Urundi.
Paratype material included frogs from Dabaga, Uzungwe Mountains, collected by A. L. *Ptychadena* is regarded as a subgenus of *Rana*.

RANA MASCARENIENSIS UZUNGWENSIS Loveridge.
Rana mascareniensis uzungwensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 384. Dabaga, 6,000 feet, Uzungwe (Uzungwa) Mountains, Tanganyika Territory. ♀ + 13, but some of the male paratypes have since been made paratypes of *R. loveridgei* by Laurent.

RANA MIADIS Barbour & Loveridge.
Rana miadis Barbour & Loveridge, 1929, *Bull. Mus. Comp. Zool.*, **69**: 143. Little Corn Island, Caribbean, 40 miles off coast of Nicaragua. ♀.

RANA MWANZAE Loveridge. See *R. occipitalis* Günther.

[RANA OCCIPITALIS Günther.]
Rana occipitalis Günther, 1858, *Cat. Batr. Sal. Brit. Mus.*, p. 130, pl. xi. Gambia; West Africa; Africa.
Rana mwanzae Loveridge, 1925, *Proc. Zool. Soc. London*, 772, pl. ii. Simiyu River, about 4,000 feet, Maswa, Tanganyika Territory. ♀ + ♀.
Günther's material consisted of juveniles while my Sagayo specimens were giant bullfrogs displaying the adult characters.

MICROHYLIDAE

ASTEROPHRYS WILHELMANA Loveridge.
Asterophrys pansa wilhelmana Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 419. Mount Wilhelm, 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♀ + 11.
Made a full species by Zweifel (1956, *Amer. Mus. Novit.*, No. 1766: 9) where he removed *pansa* to *Cophixalus*.

ASTEROPHRYS SLATERI Loveridge.

Asterophrys slateri Loveridge, 1955, Breviora (*Mus. Comp. Zool.*) No. 50: 1. Omati, near Port Moresby, Papua.

COPHIXALUS DARLINGTONI Loveridge.

Cophixalus biroi darlingtoni Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 423. Toromanbanau, 7,500 feet, Bismarck Range, Madang Division, Australian New Guinea. ♀ + 49.

Made a full species by Zwiefel (1956, *Amer. Mus. Novit.*, No. 1766: 44; and 1785: 5) who considers the differences from *biroi* specific.

COPHIXALUS PARKERI Loveridge.

Cophixalus variegatus parkeri Loveridge, 1948, *Bull. Mus. Comp. Zool.*, **101**: 425. Mount Wilhelm, 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea. ♀.

Made a full species by Zweifel (1956, *Amer. Mus. Novit.*, No. 1766: 44; and 1785: 8) who, with additional material, discusses the distinguishing characters.

HOPLOPHRYNE Barbour & Loveridge.

Hoplophryne Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 258, pl. ii, fig. 5.

A genus of peculiar banana-dwelling frogs, with *H. uluguruensis* Barbour & Loveridge as genotype.

HOPLOPHRYNE ROGERSI Barbour & Loveridge.

Hoplophryne rogersi Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 258, col. pl. ii, fig. 5. Mount Bomoli, 3,500 feet, near Amani, Usambara Mountains, Tanganyika Territory. ♂ + 3 ♂ ♂.

HOPLOPHRYNE ULUGURUENSIS Barbour & Loveridge.

Hoplophryne uluguruensis Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 254, col. pl. ii, figs. 3–4. Mount Mbova, 4,000 feet, near Nyange, Uluguru Mountains, Tanganyika Territory. ♂, + 41 from 4 localities.

OREOPHRYNE PARKERI Loveridge.

Oreophryne parkeri Loveridge, 1955, Breviora (*Mus. Comp. Zool.*), No. 50: 3. Matapan, Wakip River, Australian New Guinea.

PARHOPLOPHRYNE Barbour & Loveridge.

Parhoplophryne Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 260.

A genus, related to *Hoplophryne*, with *P. usambaricus* (*sic*) as genotype.

PARHOPLOPHRYNE USAMBARICA Barbour & Loveridge.

Parhoplophryne usambaricus Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**, p. 260. Amani, 3,000 feet, Usambara Mountains, Tanganyika Territory. ♀ imm., tadpoles, etc.

PROBREVICEPS MACRODACTYLUS MACRODACTYLUS (Nieden).

Breviceps macrodactylus Nieden, 1926, *Das Tierreich*, **49**, *Anura* **2**: 6. Usambara Mountains, Tanganyika Territory.

Breviceps usambaricus Barbour & Loveridge, 1928, *Mem. Mus. Comp. Zool.*, **50**: 251. Amani, 3,000 feet, Usambara Mountains, Tanganyika Territory. ♀ + 104 from 2 localities.

B. usambaricus was described prior to my seeing Nieden's volume.

PROBREVICEPS MACRODACTYLUS LOVERIDGEI Parker.

Probreviceps macrodactylus loveridgei Parker, 1931, *Ann. Mag. Nat. Hist.* (10), **8**: 263. Bagilo, 6,000 feet, Uluguru Mountains, Tanganyika Territory.

This was based on some of the 43 frogs from 3 localities referred by Barbour & Loveridge (1928: 249) to *Breviceps rugosus* Power, on the advice of Power, then the last reviser of that genus.

PROBREVICEPS MACRODACTYLUS RUNGWENSIS Loveridge.

Probreviceps macrodactylus rungwensis Loveridge, 1932, *Bull. Mus. Comp. Zool.*, **72**: 387. Nkuka Forest, 5,460 feet, Rungwe Mountain, Tanganyika Territory. ♀ + 2 ♂ ♂, 1 ♀.

PROBREVICEPS ULUGURUENSIS (Loveridge).

Breviceps uluguruensis Loveridge, 1925, *Proc. Zool. Soc. London*, p. 789, pl. i, fig. 3. Bagilo, 6,000 feet, Uluguru Mountains, Tanganyika Territory. Holotype.

PISCES

Fish never interested me much, partly because indigenous species were absent from streams in the montane forests where so much of my collecting was done, partly because the first comprehensive selection I gathered met with taxonomic disaster as related below. Actually only one of the 9 presumably valid species listed here was personally taken by me, the others I was merely instrumental in salvaging or forwarding to the British Museum.

In this connection a somewhat curious incident occurred. About 1921, when I was in the Tanganyika Game Department, a letter was received from, I think, the Secretariat, stating that they were sending us a bottle of fish that had been abandoned by the enemy at a small outpost on the Rufigi River. The locality label read: "Mpanganye, Rufigi". It has since occurred to me that the first name may be the Swahili locative for "in Mpanga" i.e. "Mpanga-ni," and refers to Mpanga, 450 feet, Rufigi River. I forwarded them to the British Museum where they were all described as new by the late J. R. Norman. No sooner did his paper appear in the "Annals" than an enquiry came from Germany for information as to what had become of the microscope that had been abandoned with the fish! That was a question which neither Secretariat nor Game Department could answer, for we had no knowledge of it.

The three species described by Dr. Tate Regan were found bottled in an abandoned German Veterinary Headquarters a few miles north of Morogoro. As they were not labelled, the possibility that they had been taken elsewhere than in one of the local rivers is worth consideration. Though almost all the reptiles found with them occurred in the vicinity of Morogoro, there was a *Feylinia* that probably came from Bukoba or some part of German East Africa west of Lake Victoria.

In 1930 I visited Lakes Victoria, Tanganyika and Nyasa—the latter only at its northern end in the vicinity of Mwaya. From the local fishermen I gathered a fairly sizeable collection of fish. Upon my return to the Museum of Comparative Zoology I asked our Director if these fishes might be submitted for study to J. J. Nichols at the American Museum, or else shipped to the British Museum for identification. However, out of the kindness of his heart, Dr. Thomas Barbour replied that now we had a curator of fishes in Dr. N. A. Borodin, he could not be bypassed. When I pointed out that there was no African comparative material available so that misidentifications were likely to result, Barbour said it was an opportunity for Borodin to win his spurs.

In Russia Borodin's work had been with economic fisheries so that his taxonomic background was of the scantiest, and his conception of the importance of precise locality data was of an earlier generation. When engaged in unpacking the collection he came into my room with a label in his hand. "What is this 'Kasanga, L.T.' mean?" he asked. "It is a locality on the south-east shore of Lake Tanganyika," I replied. "Oh, Lake Tanganyika!" he exclaimed, "That's good enough for me, I don't need to bother with Kasanga"; and hurried from the room. I followed and pointed out the importance of precise data in so large a lake, fed by rivers from so many watersheds. Thereafter, I think, Borodin took the trouble to retain precise data, but already half the collection was unpacked.

The first results of Borodin's studies appeared in 1931 in a paper entitled "Some new Cichlid Fishes from Lakes Victoria and Tanganyika, Central Africa." Following its publication the late C. Tate Regan wrote for photographs of Borodin's types, and the next year (1932) relegated 5 of them to the synonymy in an article published in the same Proceedings that had carried Borodin's paper. Unfortunately all of Regan's tentative allocations seem to have been erroneous; understandable, when one sees how poorly these photographs reproduced in Borodin's main report (1936) on the collection, where he described a further 5 forms as new. All 12 types were then borrowed by Dr. E. Trewavas who synonymized the Borodin names in a paper (1946, *Proc. Zool. Soc. London*, **116**, Part 2, pp. 240–246) published after his death.

In this list it is Dr. Trewavas' synonymization that is followed, and the real names arranged alphabetically without cross-references to the Borodin names which follow.

I am greatly indebted to Dr. Trewavas for kindly scanning the following list and making a couple of corrections to bring it up to date. She informs me that, as of 7.i.1960, all but the Borodin 'species' are still considered valid, i.e. 9 out of a total of 20 described. Also, that in view of the varied application of the word 'cotype' among continental taxonomists, 'syntype' is preferred by ichthyologists.

CHARACINIDAE

DISTICHODUS RUFIGIENSIS Norman.

Distichodus rufigiensis Norman, 1922, *Ann. Mag. Nat. Hist.* (9), **9**: 686. *Mpanganye, Rufigi River, Tanganyika Territory. 3 syntypes.

CYPRINIDAE

BARBUS APHANTOGRAMMA Tate Regan.

Barbus aphantogramma Tate Regan, 1920, *Ann. Mag. Nat. Hist.* (9), **6**: 105. *(Found bottled at) Morogoro, Tanganyika Territory. 10 syntypes.

* See general remarks on Pisces for note on this locality.

BARBUS LOVERIDGII Boulenger.
Barbus loveridgii Boulenger, 1916, *Ann. Mag. Nat. Hist.* (8), **17**: 245. Amala River, entering the east side Lake Baringo, Kenya Colony. "Several" syntypes. Coll. A. B. Percival.

BARILIUS LOVERIDGEI Norman.
Barilius loveridgei Norman, 1922, *Ann. Mag. Nat. Hist.* (9) **9**: 687. *Mpanganye, Rufigi River, Tanganyika Territory. Holotype.

LABEO LOVERIDGEI Tate Regan.
Labeo loveridgei Tate Regan, 1920, *Ann. Mag. Nat. Hist.* (9), **6**: 104. *(Found bottled at) Morogoro, Tanganyika Territory. Holotype.

XENOBARBUS Norman.
Xenobarbus Norman, 1923, *Ann. Mag. Nat. Hist.* (9), **12**: 694. A genus near *Barbus*, with *X. loveridgei* Norman as genotype.

XENOBARBUS LOVERIDGEI Norman.
Xenobarbus loveridgei Norman, 1923, *Ann. Mag. Nat. Hist.* (9), **12**: 695. Simiyu River, about 4,000 feet, Maswa, Tanganyika Territory. 3 syntypes.

SCHILBEIDAE

PAREUTROPIUS MICRISTIUS Tate Regan.
Pareutropius micristius Tate Regan, 1920, *Ann. Mag. Nat. Hist.* (9), **6**: 105. *(Found bottled at) Morogoro, Tanganyika Territory. 7 syntypes.

MOCHOCIDAE

SYNODONTIS MACULIPINNA Norman.
Synodontis maculipinna Norman, 1922, *Ann. Mag. Nat. Hist.* (9), **9**: 687. *Mpanganye, Rufigi River, Tanganyika Territory. 9 syntypes.
Both this species and the preceeding one were formerly included in the SILURIDAE; they still remain members of the suborder SILUROIDAE.

CICHLIDAE

TILAPIA UROLEPIS Norman.
Tilapia urolepis Norman, 1922, *Ann. Mag. Nat. Hist.* (9), **9**: 688. *Mpanganye, Rufigi River, Tanganyika Territory. Holotype.

Cichlidae described by Borodin

[CALLOCHROMIS MACROPS (Boulenger).]
Pelmatochromis xenotilapiaformis Borodin, 1931, *Proc. New England Zool. Club*, **12**: 53; also 1936, *Zool. Jahrb. Syst.*, **68**: 26, pl. i, fig. 8. Lake Tanganyika, Tanganyika Territory. ♂ and ♀ syntypes.

[CALLOCHROMIS Sp.]
Ectodus descampsii ornatipinnis Borodin, 1936, *Zool. Jahrb. Syst.*, **68**: 17. Ujiji, Lake Tanganyika, Tanganyika Territory. Holotype.

[HAPLOCHROMIS BURTONI (Günther).]
Tilapia nadinae Borodin, 1931, *Proc. New England Zool. Club*, **12**: 54; also 1936, *Zool. Jahrb. Syst.*, **68**: 29, pl. i, fig. 7. Albertville, Lake Tanganyika, Belgian Congo. 2 syntypes.

[HAPLOCHROMIS CALLIPTERUS (Günther).]
Neochromis simotes nyassae Borodin, 1936, *Zool. Jahrb. Syst.*, **68**: 23. Mwaya, Lake Nyasa, Tanganyika Territory. Holotype.

[HAPLOCHROMIS HOREI (Günther).]
Tilapia fasciata tanganaicae Borodin, 1936, *Zool. Jahrb. Syst.*, **68**: 29. Ujiji, Lake Tanganyika, Tanganyika Territory. 1 syntype.
A second cotype, from Ukerewe Island, Lake Victoria, Tanganyika Territory, was not seen by Dr. Trewavas and is probably something different.

[HAPLOCHROMIS LONGIROSTRIS (Hilgendorf).]
Haplochromis tenuis Borodin, 1931, *Proc. New England Zool. Club*, **12**: 50; also 1936, *Zool. Jahrb. Syst.*, **68**: 20, pl. i, fig. 4. Ukerewe Island, Lake Victoria, Tanganyika Territory. Holotype.

* See general remarks on Pisces for note on this locality.

[LAMPROLOGUS ELONGATUS Boulenger.]
Lamprologus cunningtoni nyassae Borodin, 1936, *Zool. Jahrb. Syst.*, **68**: 22. "Mwaya, Lake Nyasa, Tanganyika Territory." Holotype.
As *L. elongatus* is not known from Lake Nyasa the label has presumably been switched.

[LAMPROLOGUS RETICULATA Boulenger.]
Lamprologus modestus nyassae Borodin, 1936, *Zool. Jahrb. Syst.*, **68**: 23. "Mwaya, Lake Nyasa Tanganyika Territory." Holotype.
As *L. reticulata* is not known from Lake Nyasa the label has presumably been switched.

[LIMNOTILAPIA DARDENNII (Boulenger).]
Pelmatochromis loveridgei Borodin, 1931, *Proc. New England Zool. Club*, **12**: 51; also 1936, *Zool. Jahrb. Syst.*, **68**: 24, pl. i, fig. 3. Ujiji, Lake Tanganyika, Tanganyika Territory. Holotype.

[NEOTILAPIA TANGANICAE (Günther).]
Haplochromis fasciatus Borodin, 1931, *Proc. New England Zool. Club*, **12**: 49; also 1936. *Zool. Jahrb. Syst.*, **68**: 18, pl. i, fig. 6. Ujiji, Lake Tanganyika, Tanganyika Territory. 2 syntypes,

[SERRANOCHROMIS ROBUSTUS (Günther).]
Pelmatochromis tanganyicae Borodin, 1931, *Proc. New England Zool. Club*, **12**: 52; also 1936, *Zool. Jahrb. Syst.*, **68**: 25, pl. i, fig. 9. Lake Tanganyika, Tanganyika Territory. Holotype.
Dr. Trewavas no longer considers *robustus* (Günther) to be a synonym of *thumbergi* (Castelnau).

[TELMATOCHROMIS TEMPORALIS Boulenger.]
Julidochromis macrolepis Borodin, 1931, *Proc. New England Zool. Club*, **12**: 51; also 1936, *Zool. Jahrb. Syst.*, **68**: 21, pl. i, fig. 5. Ujiji, Lake Tanganyika, Tanganyika Territory. Unsexed holotype.

(*Received 6th May*, 1960)

THE COWRIES OF THE EAST AFRICAN COASTS

Supplement III

By
BERNARD VERDCOURT, B.Sc., Ph.D., F.L.S.

This short supplement is devoted to a few brief additional records which have come to my notice mainly through the collectors calling on me with specimens for identification; I am also indebted to W. Old Jr. of Norfolk, Va., U.S.A., for some records based on material sent to him from Zanzibar by Mr. Hashim Makame.

In a recent paper (Proc. malac. Soc. **33**, 278–287 (1960)) Alison Kay has demonstrated that only two anatomical categories appear to be distinguishable in the *Cypraeinae* and that these cut right across existing systems of generic classification; she therefore concludes that only one genus *Cypraea* should be retained for species of the *Cypraeinae*. I have retained the other names in brackets for ease of reference but they are not even proper subgenera.

Cypraea (*Erosaria*) *gangranosa*
Very few specimens of this rare cowry have come to hand. Kenya, Ukunda, "Sandy Bay". inner reef (M. J. H. Liversidge).

Cypraea (*Erosaria*) *helvola*
Zanzibar, up to 3.2 cm. (W. Old).

Cypraea (*Erosaria*) *poraria*
Kenya, Shanzu (Metcalfe).

Cypraea (*Erosaria*) *erosa*
Zanzibar, up to 5 × 2.7–3 cm. (W. Old.).

MILLET COWRY
Cypraea (*Erosaria*) *inocellata* Gray (= *miliaris auctt. non* Gmelin) Fig. 1.
Description: Shell ovoid-pyriform, about 3 cm. long, rather narrowed and produced at bottom end. Back bistre with dense, but faint and obscure small white spots of various sizes. Edges white, pitted, the left-hand one margined. Base white but with a faint yellowish tinge about the teeth. I am accepting Steadman and Cotton's change of name for this species.

Zanzibar, Bawi Island, found by Mr. Kanyani, a native fisherman, who gave it to Mr. Mehta (communicated by Mrs. C. D. Knight).

This species is not recorded by the Schilders from west of Malaysia, N. Australia, Japan and Central Melanesia. The Zanzibar shell does not fit very well with the description of any of the described races and may belong to a new one. Further material is required. There seems to be no doubt as to the authenticity of the record. Schilder remarks (p. 138) that *miliaris* (as he called it) might be regarded as a race of *lamarckii* but that the two were quite separate in their distributions. This new record disposes of that idea.

Viader does, however, record the species in his catalogue of Mauritius molluscs but that is a rather uncritical compilation. In my original key the species would key to couplet 49, assuming the teeth to be uncoloured as would almost certainly be the case. It differs from *cribraria* in being larger and in having much more obscure, smaller spots on a much paler ground, and from *vitellus* in being usually smaller and paler, with far less obvious spots and also by lacking the bands and fine hair lines on the left side.

Cypraea (*Erosaria*) *turdus turdus*
Kenya, Shanzu (Metcalfe) (not seen).

Cypraea (*Erosaria*) *turdus zanzibarica* Sullioti
A shell 3.8 cm. long and 2.9 cm. wide with remarkably thickened margins (in much the same way as *caput-serpentis* is margined) was found at Port Reitz, Mombasa, Kenya (C. J. Metcalfe). This shell is much larger and very dissimilar to the races found in the Red Sea etc., or even at Lamu and I can only assume it is a true specimen of race *zanzibarica* which although described from E. Africa does not appear to have been recorded since then. Mr. Metcalfe actually found two specimens; I have examined only one.

Cypraea (*Erosaria*) *marginalis* Fig. 3.
Although there is still not a fresh specimen of this in the Coryndon Museum collections several private collectors have excellent specimens.

Kenya, Waa Beach (Davison); Diani Beach, inner reef (M. J. H. Liversidge); mouth of Tiwi River and in Maida Creek (Hennings); Shanzu, outer reef (Metcalfe).

Cypraea (*Erosaria*) *lamarckii*
Kenya, Port Reitz (Metcalfe) (including two peculiar specimens, one very pale and abnormally coloured and another with an exceedingly thick calloused margin quite distinct from the normal form but only a variant); Zanzibar, up to 5.1 × 3.1 cm. (W. Old).

Cypraea (*Monetaria*) *annulus*
Zanzibar, up to 3.1. × 2.2. cm. (W. Old).

Cypraea (*Monetaria*) *moneta*
Zanzibar, up to 3.3 cm. long (W. Old). Mr. Old points out that *C. moneta* rarely has an annular ring which may account for some of the reports of hybrids between this species and *C. annulus*.

Cypraea (*Blasicrura*) *owenii* Fig. 2.
Kenya, Waa Beach (Davison); Diani Beach (Miss G. Benton). Tanganyika, Dar es Salaam (Haywood) (figured in fig. 2. from a photograph kindly supplied by the collector); Zanzibar (Barton).

Cypraea (*Blasicrura*) *stolida*
Kenya, Shimoni (Benton, Hennings, 7 specimens in all); Shanzu (Metcalfe, two specimens); Zanzibar, three specimens entirely lacking the central blotch (C. D. Knight *et al.*).

Cypraea (*Cribraria*) *cribraria*
Mr. Old has suggested that the specimens from Shanzu in the collection of Mr. Penn mentioned in Supplement II may be *C. esontropia* Duclos a species not recorded from E. Africa but which occurs in Mauritius. This species is anyway very close to *cribraria* and probably no more than a variety of it. I would welcome material so as to settle the question of its identity, by sending it away for comparison with authentic material.

Cypraea (*Luria*) *isabella*
Zanzibar, up to 4 cm. long (W. Old).

Cypraea (*Cribraria*) *teres*
Tanganyika, Mtwara, a very small specimen, 1.7 × 0.9 cm. (Childs). Mr. Childs thought this might be *C. subteres* but that is a S.E. Polynesian species.

Cypraea (*Palmadusta*) *punctata*
Kenya, Shimoni (Benton & Metcalfe) (three specimens).
A form 18 mm. long and 10.5 mm. wide, with salmon-coloured back and very pronounced deep brown spots, not at all typical. Kenya, Ukunda, "Sandy Bay", inner reef (M. J. H. Liversidge).

Cypraea (*Palmadusta*) *asellus*
Kenya, Shimoni (Benton & Metcalfe) (one).

Cypraea (*Palmadusta*) *ziczac*
Kenya, Port Reitz (Miss A. Benton) (one).

SMALL-TOOTHED COWRY
Cypraea (*Palmadusta*) *microdon* Gray subsp. *chrysalis* (Kiener)*
In my original paper I mentioned that there was a fossil record of this species from Mombasa; I am indebted to Mrs. C. D. Knight of Zanzibar for pointing out to me that I had confused two species under the name *fimbriata*, one of which has proved to be *microdon*. Some time ago Mrs. Knight sent me a single small cowry from Zanzibar which, I must admit, I did not examine carefully enough; I named it *fimbriata*. In August, 1960, Mrs. Knight queried this after she had noticed it was quite different from her other specimens of *fimbriata* and she sent me three *fimbriata* and one *microdon* also from Zanzibar. These two *microdon* are the only ones I have seen but I expect if every collector overhauls their *fimbriata* after reading this, a good many more specimens will be found. Mr. Haywood wrote to me a few days after I received Mrs. Knight's letter and states that he also has seen two specimens of this species from Zanzibar.

Shell elongate-ovoid, somewhat cylindrical, closely resembling *C. fimbriata* in shape, 13–15 mm. long and 7–7.5 mm. wide, pale yellow-brown above or bistre, with about three vague darker bands above limited by transverse lines of brown subquadrate spots. The ends are spotted with lilac-purple, the twin spots at both ends being visible from above and below. The base is white save for the bands which enter the columella side of the mouth. The teeth are exceedingly fine and the mouth much less dilated below than it is in *fimbriata*. Careful examination of the teeth will immediately separate this species from *fimbriata*. In the latter there are 16 teeth on the outer lip per centimetre and in *microdon* there are at least 25 per centimetre. The basal columella teeth are also much more widely spaced in *fimbriata*.

Cypraea (*Callistocypraea*) *testudinaria*
Kenya, Waa Beach (Davison); Tanganyika, Kilwa District, Kiswere (Kirkby).

* M. J. H. Liversidge has now found this on the Kenya Coast at Diani beach; he is publishing details in a separate note.

Cypraea (*Mauritia*) *mappa*
Kenya, Shanzu (Mrs. Cowen fide Benton); Zanzibar, 7.3 cm. long, 1957 (W. Old). This appears to be frequent in Zanzibar.

Cypraea (*Mauritia*) *arabica*
Zanzibar, Fumba Island, 8.4 × 5.1 cm. (W. Old).

Cypraea (*Mauritia*) *depressa*
Kenya, Tiwi (Mrs. Hatfield).
Since very few records have been previously received from Dar es Salaam* it seems worth while to give in full a report received from E. T. Haywood, Umkomaas, Natal, who has collected in that area.

"*Cypraea* (*Pustularia*) *globulus:* I know of no one who has found a specimen in and around Dar es Salaam.

"*Cypraea* (*Pustularia*) *cicercula lienardi:* I have found a *very* beach-worn specimen in Dar es Salaam during the last three months, but otherwise I know of no one who has found a specimen, dead or alive.

"*Cypraea* (*Staphylaea*) *staphylaea:* In the past a reasonable number of these were to be found in the Dar es Salaam area, but on a visit of just over three months recently I never found a single specimen alive. I have two pale brown variants, collected several years ago in Dar es Salaam—somewhat similar, I imagine, to the specimens of *C. limacina* mentioned in your Supplement II as having been found by Mr. Bentley, but I am unable to say if age has anything to do with it, as I cannot remember now if they were alive when taken. I doubt it, although they do not appear to be very beach-worn.

"*Cypraea* (*Staphylaea*) *limacina:* The remarks I have made in the first sentence above, relative to *C. staphylaea* apply.

"*Cypraea* (*Staphylaea*) *nucleus:* I know of no one who has found a live specimen in the Dar es Salaam area. Beach-worn specimens occasionally appear, and three months ago I got one measuring 3.5 cm. in length.

"*Cypraea* (*Erosaria*) *helvola:* Common in the Dar es Salaam area.

"*Cypraea* (*Erosaria*) *caput-serpentis:* Not plentiful, but at the same time not uncommon.

"*Cypraea* (*Erosaria*) *erosa:* Fairly common in the Dar es Salaam area. I have one specimen collected at Dar es Salaam which has no trace of a blotch on one side, and only the minutest mark on the other side—about the size of a pinhead. The shell is thus virtually blotchless. I mention this having regard to the first sentence when you dealt with this shell in Supplement II, and to your 'Note' in the original paper of June, 1954.

"*Cypraea* (*Erosaria*) *marginalis:* No trace dead or alive.

"*Cypraea* (*Erosaria*) *lamarckii:* In Dar es Salaam and its environs I have never seen a specimen, dead or alive, on the reefs or beaches during the daytime. Out at night, with a torch at very low tide, on a muddy bottom, adhering to and surrounding the base of stakes planted by Africans for affixing their fishing nets, and at low water mark, I have found as many as 24 in one night—in fact the only night I tried.

"*Cypraea* (*Erosaria*) *poraria:* None has been found in the Dar es Salaam area as far as I know.

"*Cypraea* (*Erosaria*) *turdus:* Same remarks as under *poraria.*

"*Cypraea* (*Monetaria*) *annulus:* Your note in Supplement II leads me to observe that on a recent visit to Dar es Salaam I collected a similar specimen, save that the orange-brown extends faintly from about the centre of the dorsum, and getting really dark all round one side between the "*annulus*" and the margin, and faintly on the other side. I thought when I just picked it up that it was a weirdly coloured "*moneta*", but no, it is undoubtedly "*annulus*". I also have *C. annulus* without the "annulus".

"*Cypraea* (*Monetaria*) *moneta:* I have one from Zanzibar which measures 3.46 cm. in length and 2.27 cm. in width.

"*Cypraea* (*Erronea*) *onyx:* I have never heard of a specimen dead or alive being found in the Dar es Salaam area.

"*Cypraea* (*Erronea*) *caurica:* Fairly common in the Dar es Salaam area. I have a *juvenile* from Zanzibar which measures 5.13 cm. in length.

* Since this was written I have seen a proof copy of Mr. Spry's valuable illustrated account of the shells of Dar es Salaam but Mr. Haywood's list is still worthy of reproduction.

"*Cypraea* (*Palmadusta*) *clandestina:* Uncommon, but I have collected about ten specimens in the last three or four years.

"*Cypraea* (*Palmadusta*) *asellus:* I have not heard of anyone collecting a dead or a live specimen in the Dar es Salaam area.

"*Cypraea* (*Palmadusta*) *ziczac:* Unknown in the Dar es Salaam area, as far as I know.

"*Cypraea* (*Palmadusta*) *diluculum:* Rare in Dar es Salaam area. I have *only once* come across three together, and I know of no one else who has come across any at all.

"*Cypraea* (*Palmadusta*) *felina:* I have only found isolated specimens in and around Dar es Salaam, save at outer Sinda Island during 1956, where I picked up this species under almost every stone I turned over in a particular locality of somewhat dead reef. Obviously they were somewhat localised, and whether or not they are to be found there today I cannot say.

"*Cypraea* (*Palmadusta*) *fimbriata:* During 1956 and 1957 I found quite a number of these, about 18, at Kendwa Island, but on several visits paid to the same parts during the last four months I never came across one.

"*Cypraea* (*Palmadusta*) *gracilis:* No sign in the Dar es Salaam area.

"*Cypraea* (*Palmadusta*) *punctata:* In years of shelling in and around Dar es Salaam I have only found two, and they were together under the same stone.

"*Cypraea* (*Blasicrura*) *kieneri:* During 1956 and 1957 I collected quite a number of these—only isolated specimens—but visiting the same haunts on various occasions during the last four months I never came across a specimen at all.

"*Cypraea* (*Blasicrura*) *stolida:* I have never heard of anyone collecting a specimen in the Dar es Salaam area. When in Zanzibar recently—they do not appear to be uncommon there—I was shown, in the collection of Mrs. Dalton, a "live" specimen with no blotch on the dorsum, and without the marginal streaks.

"*Cypraea* (*Cribraria*) *teres:* During 1956 and 1957 I would have described this species as common on Kendwa Island, Dar es Salaam, but recently I only came across two or three there, and none elsewhere in the Dar es Salaam area.

"*Cypraea* (*Cribraria*) *chinensis:* Never plentiful in the Dar es Salaam area, but during 1956 and 1957 I collected about ten fine specimens on Kendwa Island. On several recent visits to the island I saw no sign of them.

"*Cypraea* (*Cribraria*) *cribraria:* My observations with regard to "*chinensis*" apply.

"*Cypraea* (*Luria*) *isabella:* Common in the Dar es Salaam area.

"*Cypraea* (*Callistocypraea*) *testudinaria:* Save for the one referred to in your Supplement II, I have never heard of anyone collecting a live specimen in the Dar es Salaam area. In 1955 I found a *very dead* specimen under a stone at Kendwa Island, and how I wished it had been worth keeping, as it measured 13.44 × 6.7 cm. It was a monster. It is a shell which turns up periodically in Zanzibar, and I have three specimens, all "alive" from there, the largest of which measures 11.45 cm. in length.

"*Cypraea* (*Talparia*) *argus:* It appears to be easy enough to obtain beach-worn specimens in a certain locality in Zanzibar, but it is *very* difficult to obtain a live specimen. I have a fine specimen from Zanzibar, which measures 8.6 cm. in length. (M. A. Kirkby reports very worn specimens from Kiswere haven in Kilwa District. B.V.)

"*Cypraea* (*Talparia*) *talpa:* I agree with the first sentence in your Supplement II. I have collected specimens in the Dar es Salaam area, but very infrequently.

"*Cypraea* (*Mauritia*) *mappa:* I have never heard of anyone finding a specimen in the Dar es Salaam area. It is obtainable in Zanzibar, but is rather rare. I have three lovely specimens from Zanzibar, the largest of which measures 7 cm. One of my specimens is a peculiar green form, similar to your description of the green form of "*fimbriata*" in Supplement II, collected by Mr. Spry (I was with him when he found it, and I have thus seen his *fimbriata*). In my *mappa* the green pigmentation is also in no way superficial, but an integral part of the shell throughout. It is an interesting specimen.

"*Cypraea* (*Mauritia*) *scurra:* This species appears to be not uncommon in Zanzibar, but I have never heard of anyone finding a specimen in the Dar es Salaam area.

"*Cypraea* (*Mauritia*) *arabica:* Not uncommon in the Dar es Salaam area.

"*Cypraea* (*Mauritia*) *histrio:* Not uncommon in the Dar es Salaam area, where I have found quite a number. I found a fully adult specimen which measures only 4.35 cm. in length.

"*Cypraea* (*Mauritia*) *mauritiana:* Not plentiful in the Dar es Salaam area.

" *Cypraea tigris:* Very common in the Dar es Salaam area. I have collected a fully adult specimen measuring only 5.85 cm. in length, and yet another adult measuring 10.15 cm.

"*Cypraea lynx:* Very common in the Dar es Salaam area, where I collected one measuring 5.23 cm. in length.

"*Cypraea vitellus:* Fairly common in the Dar es Salaam area.

"*Cypraea carneola:* Very common in the Dar es Salaam area. I have a juvenile specimen from Zanzibar measuring 6 cm. in length."

I must add that I have not verified any of Mr. Haywood's records and that the report above is not altered in any way. He is naturally responsible for his own statements. I am very grateful to him for this valuable report from an area about which I have previously received little information.

ADDITIONAL NOTE ON SCORPION SHELLS.

Both Mr. Old and Mr. Spry have pointed out that in my note on the species of *Lambis* (this Journal **23,** 146 (1959) I omitted mention of *Lambis scorpius* (L.) (= *L. scorpio* (Lmk.)). It is indeed this species which occurs in East Africa; *L. pseudoscorpio* Lmk. is known from a very few dubiously localised specimens in collections and the locality Zanzibar (one of the favourite vague localities beloved of older naturalists when they didn't really know the provenance of their specimens) is given by Reeve and others. Mr. Spry records *L. scorpius* from Dar es Salaam, Oyster Bay and Mr. Old from Zanzibar; there are specimens in the museum from Zanzibar and Kenya, Kikambala. In this species the third and fourth arms from the top, i.e. the first pair of lateral arms are free, whereas in *L. pseudoscorpio,* they are joined basally for a short distance.

(*Received January,* 1960)

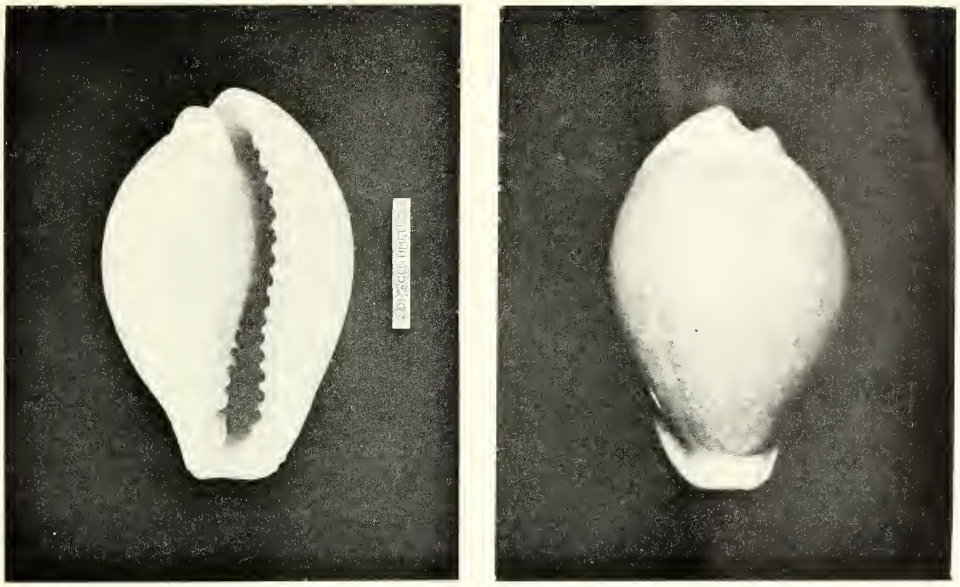


Fig. 1. Cypraea inocellata *Gray, Zanzibar, Bawi Island, Kanyani* (*white line represents* 1 *cm.*)

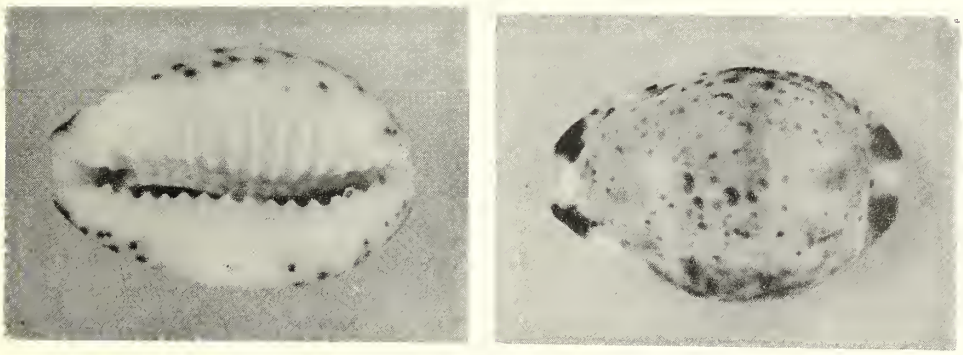
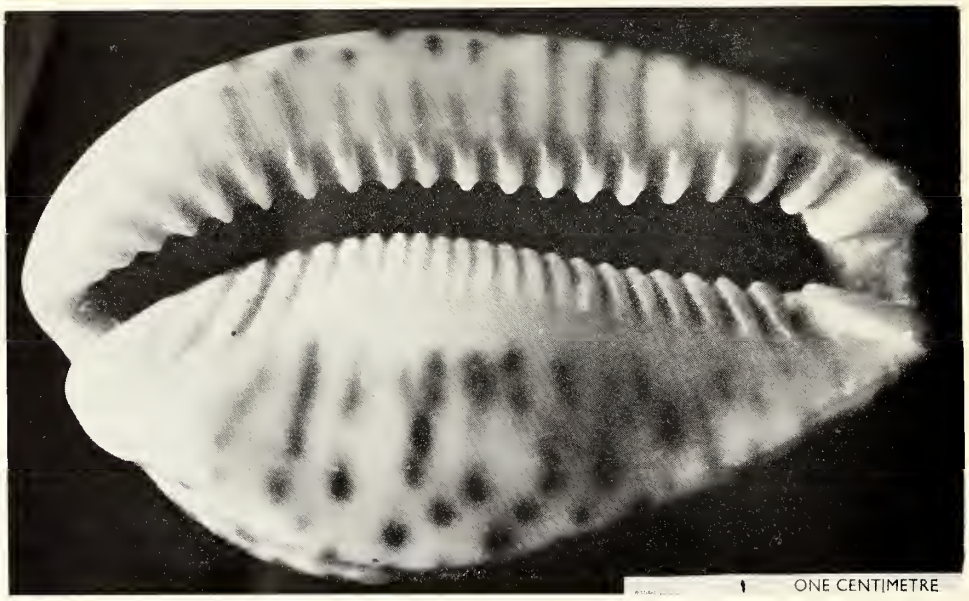


Fig. 2. Cypraea owenii, *Dar es Salaam, Haywood* (x3)



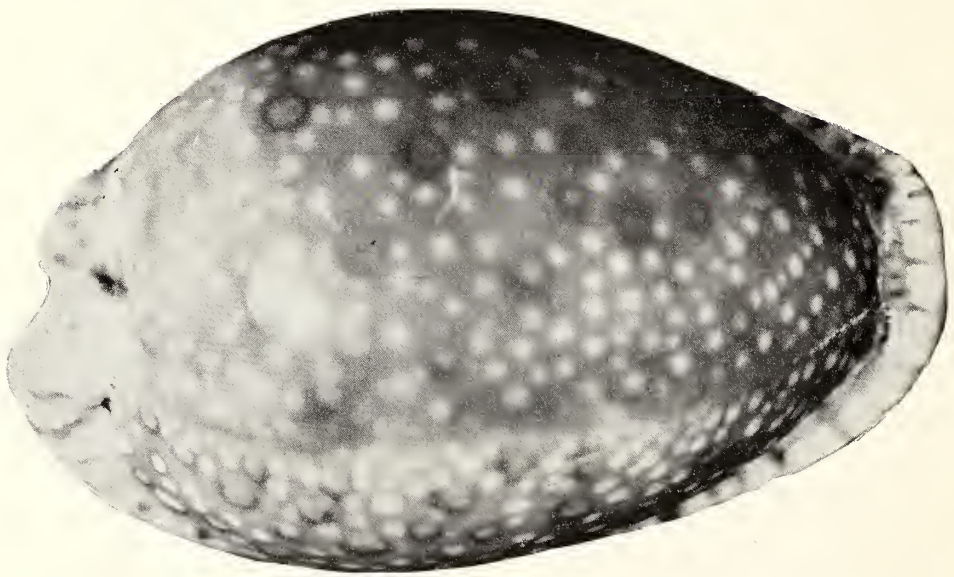


Fig. 3. Upper and lower sides of C. marginalis, *Kenya, Diani, leg. Master M. J. H. Liversidge (photo. by T. V. Price, Esq.)*

A CHECKLIST OF THE BATS (CHIROPTERA) OF KENYA COLONY

By DAVID L. HARRISON, M.A., M.B., B.Ch., F.Z.S.

INTRODUCTION

The known Chiroptera of Kenya comprise seventy-five named forms at the time of writing. There is at present no comprehensive work of reference to which the interested zoologist may turn to find an account of the available material and the literature dealing with this large and still growing assemblage of bats. The purpose intended in preparing this check list has been to provide such a basis for further work on the Chiroptera of Kenya, rather than to provide a final answer, which certainly cannot yet be given, to the many systematic difficulties still involved in the taxonomy of African Bats. Where special difficulties are likely to be encountered, notes have been appended explaining these difficulties and giving sometimes an opinion regarding their possible solution and lines for future research. It is hoped that this list will provide as a first step a working guide to the status of the species known to exist in the area and to the literature about them. A key to their identification, suitably illustrated, will form a natural addition to the present groundwork.

The list has been based on material in the British Museum of Natural History, the Coryndon Museum in Nairobi and the author's personal collection as well as on the published literature. It cannot be hoped that all records will have been included, especially of the commoner species, but it is hoped that a fairly complete picture of their distribution so far as it is known will have emerged. The source of each locality record, either the collection in which the specimen is to be found, or a number referring to the publication in question as listed in the bibliography, will be found in brackets after the locality name. (Abbreviations employed are as follows—B.M.C.= British Museum Collection, C.M.C.=Coryndon Museum Collection, H.C=Harrison Collection). It is regretted that considerations of space have not allowed full details of the collector of each specimen to be given with each record. Locality names have been checked so far as possible against the Ordnance Survey Map of the Colony. A full synonymy of all the named forms has not been included.

The author is especially indebted to Mr. J. D. L. Fleetwood and Mr. J. G. Williams of the Coryndon Museum for all their efforts in stimulating interest in the collection of new material, which has added so much to our knowledge of the local bat fauna in recent years. Mr. Fleetwood has also given invaluable help with details of the material in the Coryndon Museum. I would like to express my thanks also to the following, who have kindly provided specimens or information, which have been invaluable to this work—P. Bally, B. M. N. Brown, Mrs. P. Bowles, D. Brown, P. W. Barnley, Mrs. C. F. Christopher, A. Cole, J. L. Cruickshank, Mrs. M. Ellis, R. J. Evans, V. Fay, M. Fennessy, J. Fowler, J. Gosham, J. B. Hacker, C. Hagner, J. Hill, B. Hopkins, Col. R. A. F. Hurt, C. J. P. Ionides, Dr. J. Leakey, Mr. Lumsden, C. Moore, I. Parker, R. Peake, Miss J. E. Proctor, Mrs. D. Powles, A. H. Randall, K. Rawlins, D. Sheldrake, A. Start, J. Start, Lt. Col. H. F. Stoneham, Mrs. Tweedie, M. E. H. Vickers and J. D. Vinson. I am much indebted also to the staff of the Mammal Section of the British Museum of Natural History for their kind co-operation, to Dr. J. Dorst of the Paris Museum for his assistance and to Dr. V. Aellen of Geneva Museum for his assistance. Dr. E. Kulzer of the Zoophysiologisches Institute at Tubingen has kindly allowed me to examine some material in his care.

The surprising number of species added to the Kenya list in recent years and indeed the altogether new forms still being discovered as well as the very scanty knowledge of many others all point to the pressing need for further research and collecting. It is hoped that this list will provide a stimulus to that end and at the same time form a compact synthesis of our present factual knowledge.

The localities referred to in this checklist can be found by reference to the Atlas of Kenya (1959), *Map* 2, *Physical and General, and to the Provincial Maps Nos.* 4 *to* 9.

CHECKLIST

Family PTEROPODIDAE. **Fruit-eating Bats.**

Genus EIDOLON Rafinesque.

EIDOLON HELVUM (Kerr) 1792. **Straw-coloured Fruit Bat.**

Vesp (*ertilio*) *Vampyrus helvus* Kerr, *Anim. Kingd. Linn.*, p. 91. Senegal, W. Africa (designated by Andersen, *Ann. Mag. Nat. Hist.* 19, 504. **1907**).

Records.—Kavirondo (7) (6); Kaimosi (C.M.C.); Sabatia (C.M.C.); Cherangani (Stoneham Mus. Coll.).

Genus ROUSETTUS Gray.

Subgenus ROUSETTUS Gray.

ROUSETTUS AEGYPTIACUS LEACHI (A. Smith) **1829, Egyptian Fruit Bat, Cape Rousette Bat.**
Pteropus leachi A. Smith, *Zool. J.* 4.433. Gardens about Cape Town, Cape Prov., S. Africa.
Records.—Mt. Elgon (B.M.C., H.C.); Shimoni (B.M.C.) (18); Chyulu Hills (C.M.C.).

Subgenus LISSONYCTERIS Andersen.

ROUSETTUS (LISSONYCTERIS) ANGOLENSIS (Bocage) 1898.
Cynonycteris angolensis Bocage, *J. Sci. Math. Phys. Nat.*, Lisboa 5: 133, 138. Pungo Andongo, Angola.
Records.—S. E. Slopes of Mt. Elgon (H.C.); Lirandha Hill, Kakamega (H.C.); Karura Forest, Nairobi (C.M.C., H.C.); Kakamega (C.M.C.).

Subgenus STENONYCTERIS Andersen.

ROUSETTUS (STENONYCTERIS) LANOSUS KEMPI Thomas 1909.
Rousettus kempi Thomas, *Ann. Mag. Nat. Hist.* 4: 543. Twere (Kirui's), 6,000 ft., S. slopes of Mt. Elgon, North Kavirondo Dist., Kenya.
Records.—Kiega Hill, Meru Dist. (H.C.); Kiambu, Nr. Nairobi (B.M.C.).

Genus EPOMOPHORUS Bennett. **Epauletted Fruit Bats.**

EPOMOPHORUS WAHLBERGI WAHLBERGI (Sundevall) 1846.
Pteropus wahlbergi Sundevall Ofvers Vetensk, *Akad. Forh., Stockh.* 3: 118. Near Durban and in the interior of Natal.
Records.—Smara, Mt. Kenya (3); Fort Hall, Mt. Kenya (3); Nyeri* (H.C.); Namanga (B.M.C.); E. Trans-Nzoia, Cherangani Hills (B.M.C.); Tinderet Forest, Songhor, Molo (H.C.); Kakamega* (H.C.); Lamu (2).

*These specimens seem to be intermediate between the two forms.

EPOMOPHORUS WAHLBERGI HALDEMANI (Halowell) 1846.
Pteropus haldemani Halowell, *Proc. Akad. Nat. Sci. Philad.* 3: 52. West Africa, possibly Liberia.
Records.—Taita Hills (16); Kitui (3); Malindi (3); Mombasa (3); Takaungu (3); Meru Rr. (1); Namanga (H.C.); Vasco de Gama Pt., Malindi (H.C.); Chyulu Hills (C.M.C.); Nairobi (C.M.C.); Elgon Caves (C.M.C.); Kabete (C.M.C.); Yala Rr. (C.M.C.); Karura Forest, Nairobi (C.M.C.); Kericho (C.M.C.); Donyo Sobuk (C.M.C.); Garabani (C.M.C.); Athi Rr. (C.M.C.).

EPOMOPHORUS ANURUS Heuglin 1864.
Epomophorus anurus Heuglin, *Nova Acta. Acad. Caes. Leop. Carol.* 31 (7) 12. Bongo, Bahr el Ghazal, Anglo-Egyptian Sudan.
Records.—Turquel (3); Kirui, Mt. Elgon (3); Mumias, Mt. Elgon (B.M.C.).

EPOMOPHORUS LABIATUS MINOR Dobson 1879.
Epomophorus minor Dobson, *P.Z.S. London* 1879: 715. Zanzibar Island.
Records.—S. Guaso Nyiro (B.M.C.); Kaimosi (2); Ngenyi, Samburu Dist. (C.M.C.); Nairobi (C.M.C.); Patta Island (C.M.C.); Nyeri (C.M.C.).

Genus MICROPTEROPUS Matschie. **Dwarf Epauletted Fruit Bats.**

MICROPTEROPUS PUSILLUS (Peters) 1867.
Epomophorus pusillus Peters, *Mber. preuss Akad. Wiss., Berlin.* 1867: 870. New name for *Epomophorus schoensis* Tomes, preoccupied, (*P.Z.S. London* 1860: 56), Gambia, West Africa.
Records.—S. Kavirondo (7); Meru Rr. (1).

Genus HYPSIGNATHUS H. Allen. **Hammer-headed Bats.**

HYPSIGNATHUS MONSTROSUS H. Allen 1861.
Hypsignathus monstrosus H. Allen, *Proc. Acad. Nat. Sci. Philadelphia* p. 157. 1861: "West Africa" = Gaboon.
Records.—Shikusa, Kakamega (C.M.C.).

Family EMBALLONURIDAE. **Sheath-tailed Bats.**

Genus COLEURA Peters.

COLEURA AFRA (Peters) 1852. **Split-nosed Bat.**
Emballonura afra Peters, *Reise nach Mossamb., Saugeth.* p. 51. Tete, S. Bank of Zambesi Rr., Boroma Dist., Portuguese East Africa.
Records.—Voi (16); Diani Mosque, S. of Mombasa, (H.C.); Ngombeni, 11 Kms S. of Mombasa (18).

Genus TAPHOZOUS Oken.

Subgenus TAPHOZOUS Oken.

TAPHOZOUS MAURITIANUS MAURITIANUS E. Geoffroy 1818.
Taphozous mauritianus E. Geoffroy, *Desc. de l' Egypte* **2**: 127. Mauritius.
Records.—Kisumu (16); Nairobi (H.C.), (C.M.C.); Bulessa (4); Mombasa (B.M.C.); Takaungu, Mombasa (B.M.C.); Aruba Lodge, Tsavo National Park, Voi (H.C.).

TAPHOZOUS HILDEGARDEAE Thomas 1909.
Taphozous hildegardeae Thomas, *Ann. Mag. Nat. Hist.* (8) 4: 98. Rabai, Mombasa Dist. Kenya.
Records.—Shimoni, S. Kenya Coast (H.C.), (B.M.C.); Ngombeni, 11 Kms. S. of Mombasa (2); Chandler Falls (C.M.C.); Massabuku, Tana R. (C.M.C.).

TAPHOZOUS PERFORATUS HAEDINUS Thomas 1915.
Taphozous perforatus haedinus Thomas, *J. Bombay Nat. Hist. Soc.* 24: 62. Chandler Falls, N. Guaso Nyiro, Kenya.
Record.—Lamu Island (2).

Subgenus LIPONYCTERIS Thomas.

TAPHOZOUS (LIPONYCTERIS) NUDIVENTRIS NUDIVENTRIS Cretzschmar 1826.
Taphozous nudiventris Cretzschmar in *Ruppell's Atlas, Reise Nord-ost Afrika, Saugethiere*, p. 70; Giza, Egypt.
Records.—Lodwar (23), (B.M.C.); Kaitherin (23), (B.M.C.).

Family NYCTERIDAE. **Hollow-faced Bats.**

Genus NYCTERIS E. Geoffroy & G. Cuvier.

NYCTERIS NANA TRISTIS G. M. Allen & Lawrence 1936.
Nycteris nana tristis G. M. Allen & Lawrence, *Bull. Mus. Comp. Zool.*, 79: 47. Kaimosi, Kakamega Dist., Kenya.
Records.—Yala Rr., Kavirondo (B.M.C.); Kakamega (H.C.).

NYCTERIS ARGE Thomas 1903.
Nycteris arge Thomas, *Ann. Mag. Nat. Hist.* (7) **12**: 633. Efulen, Cameroons.
Records.—Yala Rr., Kavirondo (16), (B.M.C.), (C.M.C.).

NYCTERIS HISPIDA AURITA (K. Andersen) 1912*.
Petalia aurita K. Andersen, *Ann. Mag. Nat. Hist.* (8) **10**: 547. Kilifi, Kenya.
Records.—Nairobi (16) (C.M.C.); Tana Rr. (16); Marsabit Rd. (16); Ferguson's Gulf, Lake Rudolf (H.C.); Lodwar (23) (B.M.C.); Mumias, Elgon (B.M.C.); Machakos (B.M.C.); Mt. Elgon (10); Kaimosi (2); Ngatana (2); Shimba Hills (C.M.C.).

*Intermediation between the long-eared *N. aurita* and the short-eared *hispida* has been noted in S. Tanganyika and both long and short-eared individuals occur in Kenya. It seems unlikely that the two are specifically distinct and more material is required to determine whether the ear length is not merely a matter of individual variation.

NYCTERIS REVOILII Robin 1881**.
Nycteris revoilii Robin, *Bull. Soc. Philom. Paris* (7) 5: 90. Somaliland.
Records.—Guaso Nyiro (1); Elgonyi (2); Kirui (2).

**Allen and Lawrence regard this as a form of *N. thebaica*.

NYCTERIS THEBAICA AURANTIACA (de Beaux) 1923*.
Petalia (Nycteris) thebaica aurantiaca de Beaux, *Atti. Soc. Ital. Sci. Nat. Milano* 62: 91. Archer's Post, N. Guaso Nyiro, Kenya.
Records.—Archer's Post, N. Guaso Nyiro (C.M.C.); Shimoni (H.C.); Nairobi (C.M.C.) (H.C.); Magadi (H.C.); Cherangani Hills, Rr. Kerio Suk (21); Loldyka Hills, Nr. Nanyuki (H.C.); Tanganyiko, Nr. Mombasa (B.M.C.); Machakos (B.M.C.); Kiambu, Nr. Nairobi (H.C.); Lake Naivasha (H.C.); Marsabit Mountains (H.C.); Athi Rr. (H.C.); Gilgil (H.C.); Mrima Hill (H.C.); Lake Elmenteita (C.M.C.) (H.C.); Voi (2)**; Elgon Caves (C.M.C.); Ol Kalou (C.M.C.); Langata Forest, Nairobi (C.M.C.).

*The brilliant orange colour phase of this species is distinctly rare and of sporadic occurrence. All but one specimen from Kenya seen by the author are of the normal brown phase. Unless study of large series reveals some other distinction from the typical form, the validity of this race therefore appears very doubtful.
**This specimen was recorded as *N. damarensis brockmani*, which is currently regarded as a form of *N. thebaica* and may be safely regarded as another instance of the great individual colour variability in the species.

NYCTERIS MACROTIS LUTEOLA Thomas 1901.
Nycteris aethiopica luteola Thomas, *Ann. Mag. Nat. Hist.* (7) 8: 30. Kitui, Kenya.
Records.—Mazeras (16); Mt. Kenya (B.M.C.); Mombasa (C.M.C.) (B.M.C.); Fort Hall (B.M.C.); Kilifi (H.C.); Lake Naivasha (C.M.C.); Kaimosi (C.M.C.); Diani (C.M.C.).

Family MEGADERMIDAE. **Big-eared Bats.**

Genus LAVIA Gray.

LAVIA FRONS REX Miller 1905*. **Yellow-winged Bat.**

Lavia rex Miller, *Proc. Biol. Soc. Washington.* **18**: 227. Taveta, Taita Dist., Kenya.

Records.—Nguriman Escarpment, W. of Lake Magadi (C.M.C.); Stony Athi (C.M.C.); Karamojo, Yala Rr. (C.M.C.); Narok (C.M.C.); Athi Station (16); Kisumu (16); Machakos Rd. (16); S. Guaso Nyiro (16); Telek Rr. (16); Sotik (16); Ulukenia Hills (16); Nanyuki (H.C.); Narrosurra Rr. (17); Rr. Kerio Suk (21); Lopi Rr. (23); Lamu Coast (B.M.C.); Fort Hall (B.M.C.); Amala Rr. (B.M.C.); Lorian Swamp (B.M.C.); Mumias, Elgon (B.M.C.); Nairobi (H.C.); Kindu Bay, Kisumu (C.M.C.) (10); Archer's Post (4); Bulessa (4); Kaimosi (2); Kitau, Manda Island (2); Mkonumbi (2); Golbanti (2); Golbanti (2); Garabani (C.M.C.); Kanjira (C.M.C.); Olorgessailie (C.M.C.); Isiolo, N.F.P. (C.M.C.); Cherangani, Kitale, (C.M.C.).

*Series of specimens from several localities in Kenya have skull measurements ranging from the size given by Hollister (16), for *Lavia frons rex* to those given for *Lavia frons affinis*. The validity of these races would therefore appear to require further assessment.

Genus CARDIODERMA Peters.

CARDIODERMA COR Peters 1872. **Heart-nosed Big-eared Bat.**

Megaderma cor Peters, *Mber. preuss. Akad. Wiss. Berlin.* **1872**: 194.

Records.—Archer's Post (16); Magadi (C.M.C.) (H.C.); Tharaka, Meru Dist. (H.C.); Tsavo Park (H.C.); Lodwar (23); Mombasa (B.M.C.); Voi (B.M.C.); Ndara Hills, Voi (B.M.C.); Eusso Nyiro (C.M.C.) (B.M.C.); Chandler Falls (B.M.C.) (C.M.C.); Tiwi, 24 Kms. S. of Mombasa (18); Ukazzi (H.C.); Lamu Island (2); Garba Tula (C.M.C.); Yatta Escarpment, Voi (C.M.C.); Lorugumo, Turkana (C.M.C.); Olorgessailie (C.M.C.); Habaswein (C.M.C.).

Family RHINOLOPHIDAE.

Genus RHINOLOPHUS Lacépède. **Horseshoe Bats.**

RHINOLOPHUS FERRUM-EQUINUM KENIENSIS Hollister 1916.

Rhinolophus keniensis Hollister, *Smithsonian Misc. Coll.* **66** No. I, p. 2. Mt. Kenya, Kenya Colony, 7,000 ft.

Records.—Mt. Elgon (C.M.C.) (H.C.); Londiani (H.C.); Limuru, Nairobi (H.C.); Endebess, Kitale (H.C.); Kaptagat (H.C.); Cherangani Hills (21); Molo (H.C.); Elmenteita (H.C.); Bukwa, Mt. Elgon (B.M.C.); Tanganyiko, Nr. Mombasa (B.M.C.); Rongai Valley (20); N. Larogie (C.M.C.); Elburgon (C.M.C.); Gura Rr. (C.M.C.); Kericho (C.M.C.).

RHINOLOPHUS LANDERI LOBATUS Peters 1852.

Rhinolophus lobatus Peters, *Reise nach Mossamb., Saugeth.*, p. 41. Sena, S. Bank of Zambesi Rr., Sena Dist., Portuguese East Africa.

Records.—Lake Naivasha, (16) (H.C.); Kijabe Station (16); Nairobi (C.M.C.) (H.C.); Malindi (19); Taveta (B.M.C.); Voi (C.M.C.) (B.M.C.); Shimoni (18); Langata Forest, Nairobi (H.C.); Marsabit (H.C.); Elgon Caves (C.M.C.); Kapenguria (C.M.C.).

RHINOLOPHUS DECKENII Peters 1867.

Rhinolophus deckeneii Peters, *Mber. preuss. Akad. Wiss. Berlin.* **1867**: 705. Coast of East Africa, probably opposite Zanzibar Island.

Records.—Tanganyiko, Nr. Mombasa (25) (B.M.C.); Gebbi (B.M.C.); Shimoni (18)*.

*This specimen was recorded as *Rhinolophus geoffroyii zambesiensis*, but I have examined the specimen and consider that it is actually *R. deckenii*. The form of the noseleaf is similar in the two forms, but the hind foot and leg of *R. deckenii* are much larger than *zambesiensis* and *keniensis* and also the skull of *deckenii* is considerably larger. Confusion between the two species is thus easy unless these particular points are examined.

RHINOLOPHUS FUMIGATUS EXSUL K. Andersen 1905.

Rhinolophus fumigatus exsul K. Andersen, *Ann. Mag. Nat. Hist.* (7) **15**: 74. Kitui, Kenya Colony.

Records.—Loldyka Hills, Nr. Nanyuki (H.C.); Taveta (B.M.C.); Shimoni (18); Marsabit Mountain (H.C.); Kirui (2).

RHINOLOPHUS HILDEBRANDTII HILDEBRANDTII Peters 1878.

Rhinolophus hildebrandtii Peters, *Monatsb. K. preuss. Akad. Wiss. Berlin* p. 195, **1878**. Ndi, Taita, Kenya Colony.

Records.—Ulukenia Hills (16) (H.C.); Fort Hall (B.M.C.); Voi (2); Athi Rr. (C.M.C.); Ol Donyo Sobuk (C.M.C.).

RHINOLOPHUS HILDEBRANDTII ELOQUENS K. Andersen 1905.
Rhinolophus hildebrandtii eloquens K. Andersen, *Ann. Mag. Nat. Hist.* (7) **15**: 74. Entebbe, Uganda.
Records.—Lake Naivasha (16); Nyuki Rr., N. Guaso Nyiro (16) (C.M.C.); S. Guaso Nyiro Rr. (16); Mt. Elgon (20) (H.C.); Londiani (H.C.); Thomson's Falls (H.C.); 25 miles N.W. of Kitale (H.C.); Elmenteita (H.C.); Kirui, Elgon (2) (B.M.C.); E. Trans Nzoia, Cherangani Hills (B.M.C.); Machakos (B.M.C.); Itrr. Rr., Cave, Kitale (H.C.); Elgonyi (2); Kinangop (C.M.C.); Mt. Mbololo, Voi (C.M.C.); Narok (C.M.C.); Diani (C.M.C.).

Family HIPPOSIDERIDAE. **Leaf-nosed Bats.**

Genus HIPPOSIDEROS Gray.

HIPPOSIDEROS CAFFER CENTRALIS Andersen 1906.
(*Hipposideros*) *caffer centralis* Andersen, *Ann. Mag. Nat. Hist.* (7) **17**: 275. Entebbe, N. shore of Lake Victoria, Uganda.
Records.—Kiambu (H.C.); Voi, Tsavo Park (C.M.C.) (H.C.); Londiani (H.C.); Molo (H.C.); Cherangani Hills (21); Archer's Post (16); Juja Farm (16); Kijabe (16); Nairobi (16); Nairobi Rr. (16); N. Guaso Nyiro (16); S. Guaso Nyiro (16); Machakos (B.M.C.); Kirui, Elgon (B.M.C.); Taveta (B.M.C.); Kitui (B.M.C.); Garbat Ullah N.F.D. (B.M.C.); Elgonyi, Elgon (B.M.C.); Kakamega (H.C.); Kilifi (H.C.); Takaungu (B.M.C.); Fort Hall (B.M.C.); Ngombeni, 11 Kms. S. of Mombasa (18); Langata Forest, Nairobi (H.C.); Shimoni (18) (C.M.C.); Sobukia (H.C.); Elgon Caves (C.M.C.); Ngong (C.M.C.); Nakuru (C.M.C.); Mau Summit (C.M.C.); Kabete (C.M.C.); Karen, Nairobi (C.M.C.).
HIPPOSIDEROS RUBER (Noack) 1893*.
Phyllorhina rubra Noack, *Zool. Jb. Syst* **7**: 586. Ngerengere Rr., Eastern Prov. Tanganyika.
Records.—Nairobi (16); Kirui (2); Elgonyi (2).

*The question of the bats of the *H. caffer* group in Kenya, as in many parts of Africa, is a vexed one and the whole group requires revision. The author has examined personally a large number of specimens of this group from Kenya and there seems to be a considerable variation in skull size, with the larger specimens somewhat intermediate between the measurements given by Hollister (16) for *H. ruber* and those given for *H. caffer*. I am therefore unable to distinguish H. *ruber* as a specific entity on the evidence at present available but feel that the question of its existence should be left open pending a complete review of the group.

HIPPOSIDEROS COMMERSONI MARUNGENSIS (Noack) 1887.
Phyllorhina commersonii Peters var. *marungensis*, Noack, *Zool. Jb.* **2**: 272. Mpala's in Marungu, West shore of Lake Tanganyika, Belgian Congo.
Records.—Malindi (19); Tana Rr. (26); Makueni, nr. Kitui (C.M.C.).

HIPPOSIDEROS MEGALOTIS (Heuglin) 1861.
Phyllorhina megalotis Heuglin, *Nova Acta Acad. Caes. Leop-Carol., Halle*, **29**: No. 8. p. 4. Bogos Land, Eritrea.
Records.—Nakuru (15) (B.M.C.), (C.M.C.), (H.C.); Kinangop (15) (C.M.C.); Lake Elmenteita (H.C.).

HIPPOSIDEROS CYCLOPS (Temminck) 1853.
Phyllorhina cyclops Temminck, *Esquisses Zool. sur la cote de Guiné* p. 75. Boutry Rr., Gold Coast.
Records.—Yala Rr. (C.M.C.) (14); Kaimosi (C.M.C.).

Genus CLOEOTIS Thomas.

CLOEOTIS PERCIVALI PERCIVALI Thomas 1901.
Cloeotis percivali Thomas, *Ann. Mag. Nat. Hist.* (7) **8**: 28. Takaungu, north of Mombasa, Kenya Colony.
Records.—Known only from the Type Locality.

Genus TRIAENOPS Dobson.

TRIAENOPS AFER Peters 1877.
Triaenops afer Peters, *Mber. preuss. Akad. Wiss. Berlin* **1876**: 913. Mombasa, east coast of Kenya Colony.
Records.—Ngombeni, 11 Kms. S. of Mombasa (18). Shimoni B.M.C.).

Family MOLOSSIDAE. **Free-tailed Bats.**

Genus OTOMOPS Thomas

OTOMOPS MARTIENSSENI MARTIENSSENI (Matschie) 1897.
Nyctinomus martiensseni Matschie, *Arch. Naturgesch.* **63** (1): 84. Magrotto Plantation S.E. Usambara Mts., west of Tanga, N.E. Tanganyika.
Records.—Kwale (C.M.C.); Nairobi (C.M.C.).

Genus Tadarida Rafinesque.

Subgenus Tadarida Rafinesque.

Tadarida aegyptiaca (E. Geoffroy) 1818.
Nyctinomus aegyptiacus E. Geoffroy, *Desc. de l'Egypte*, **2**: 128. Egypt.
Records.—Juja Farm (16); Mudanda, Tsavo (H.C.) (C.M.C.).

Tadarida lobata (Thomas) 1891.
Nyctinomus lobatus Thomas, *Ann. Mag. Nat. Hist.* (6) **7**: 303. Turquel, Suk, Kenya Colony.
Records.—Known only from the Type Locality.

Tadarida fulminans (Thomas) 1903.
Nyctinomus fulminans Thomas, *Ann. Mag. Nat. Hist.* (7) **12**: 501. Fianarantsoa, eastern Betsileo, Madagascar.
Record.—Nairobi (13) (H.C.).

Subgenus Chaerephon Dobson.

Tadarida (chaerephon) pumila naivashae (Hollister) 1916.
Chaerephon pumilus naivashae Hollister, *Smithsonian Misc. Coll.*, **66**: No. 1., p. 4. Naivasha Station, Kenya Colony.
Records.—Lake Naivasha (C.M.C.) (H.C.); Gilgil (H.C.); Taveta (5); Elmenteita (H.C.); Nakuru (H.C.); Eusso Nyiro (B.M.C.).
Tadarida (chaerephon) limbata hindei (Thomas) 1904*.
Nyctinomus hindei Thomas, *Ann. Mag. Nat. Hist.* (7) **13**: 210. Fort Hall, Kenya Colony.
Records.—Ruiru, Nairobi (C.M.C.) (H.C.); Voi (C.M.C.) (H.C.); Thika (H.C.); Malindi (H.C.); Mtoto Andei (1); Mombasa (1); Limuru (H.C.); Kiboko (18); Machakos (H.C.); Kilindini, nr. Mombasa (B.M.C.); Msambweni (H.C.); Rongai (H.C.); Witu (2); Tsavo (C.M.C.); Ngong (C.M.C.); Simba (C.M.C.); Kiambu (C.M.C.); Nairobi (C.M.C.); Langata, Nairobi (C.M.C.); Lamu (C.M.C.); Taru (C.M.C.); Athi Rr. (C.M.C.).

*It is possible that the light winged and dark winged small forms of *Chaerephon* belonging to the *limbata* and *pumila* groups will eventually prove to be conspecific. Certainly there is clear evidence of a size cline in the *limbata* group from Rhodesia northwards to Kenya in the extensive material which I have examined and hence I regard *hindei* as a large northern form of *limbata*. The fact that the Kenya race of the dark winged *pumila* is also larger than its southern representatives is significant. This group also requires a full review.

Tadarida (chaerephon) bivittata (Heuglin) 1861.
Nyctinomus bivittatus Heuglin, *Nova Acta Acad. Caes. Leop.-Carol., Halle*, **29**: No. 8., p. 4. Keren, Eritrea.
Records.—Ngong (C.M.C.); Yala Rr. (C.M.C.); Nairobi (C.M.C.); Kabete (C.M.C.); Makueni (C.M.C.); Mt. Elgon (C.M.C.).

Subgenus Mops Lesson.

Tadarida (mops) condylura (A. Smith) 1833.
Nyctinomus condylurus A. Smith, *South African Quart. J.* **1**: 54. S. Africa, Port Natal.
Syn. *Nyctinomus angolensis* Peters, *J. Sci. Math. Phys. Nat. Lisboa* (1) **3**: 124. Quenza Rr., Angola.
Records.—Malindi (H.C.); Ruanda (H.C.); Lake Naivasha (H.C.); Lamu (H.C.); Athi Rr. (H.C.); Taveta (B.M.C.); Kiboko (18); Bellazoni* (2); Ngatana* (2); Sukori, Thika (C.M.C.).

*These two specimens were recorded as *Mops* (*Allomops*) *osborni*. This form is currently regarded as a subspecies of *T.* (*M.*) *condylura* but the described subspecies are not at all well defined at present and I have preferred not to indicate any definite subspecific status for the rather few Kenya specimens at present available, having regard to the great individual variability in this species.

Genus Platymops Thomas

Subgenus Platymops Thomas

Platymops setiger (Peters) 1878.
M(ormopterus) setiger Peters, *Monatsb. K. preuss. Akad. Wiss. Berlin* **1881**: p. 483. Taita, Kenya Colony.
Records.—Only known from the Type Locality.

Platymops barbatogularis parkeri Harrison & Fleetwood 1960.
Platymops barbatogularis parkeri Harrison & Fleetwood, *Dur. Mus. Novit.* **5**: Pt. 20., 269. Lualeni Borehole, Maktau, S. Kenya Colony.
Records.—Only known from the Type Locality.

Family RHINOPOMIDAE. **Mouse-tailed Bats.**

Genus RHINOPOMA Oken.

RHINOPOMA HARDWICKEI MACINNESI Hayman 1937.
Rhinopoma cystops macinnesi Hayman, *Ann. Mag. Nat. Hist.* (10) 19: 530. Bat Island, nr. Central Island, Lake Rudolf.
Records.—Only known from the Type Locality.

Family VESPERTILIONIDAE. **Simple-nosed Bats.**

Genus MYOTIS Kaup. **Mouse-eared Bats.**

MYOTIS BOCAGII HILDEGARDEAE Thomas 1904.
Myotis hildegardeae Thomas, *Ann. Mag. Nat. Hist.* (7) 13: 209. Fort Hall, Kenya Colony.
Records.—Yala Rr. (C.M.C.) (16); Nyama Nyango, Eusso Nyiro (B.M.C.); Archer's Post (4).

MYOTIS TRICOLOR (Temminck) 1832.
Vespertilio tricolor Temminck in Smuts, *Enum. Mamm. Capensium* p. 106. 1832: Monogr. de Mammalogie, 2: 207, 1835-41. Cape Town, Cape of Good Hope.
Records.—Nakuru (H.C.); 25 miles N.W. of Kitale (H.C.); Mt. Elgon (20)*; Tarasha Rr., Gilgil (C.M.C.).

*This specimen was recorded by Rode as *Myotis emarginatus* E. Geoffroy, but I have examined the specimen, which is in the Paris Museum, and there is no doubt that it is an example of *M. tricolor*.

MYOTIS WELWITSCHII (Gray) 1866.
Scotophilus welwitschii Gray, *P.Z.S. London* 1866: 211.
Records.—Endebess (12); Trans Nzoia Dist. (Stoneham Mus. Coll.).

Genus LAEPHOTIS Thomas

LAEPHOTIS WINTONI WINTONI Thomas 1901.
Laephotis wintoni Thomas, *Ann. Mag. Nat. Hist.* (7) 7: 460. Kitui, Kenya Colony.
Records.—Nyeri (H.C.).

Genus GLAUCONYCTERIS Dobson.

GLAUCONYCTERIS VARIEGATA PAPILIO Thomas 1905.
Glauconycteris papilio Thomas, *Ann. Mag. Nat. Hist.* (7) 15: 77. Entebbe, Uganda.
Records.—Garissa (H.C.).

GLAUCONYCTERIS ARGENTATUS (Dobson) 1875.
Chalinolobus argentatus Dobson, *P.Z.S. London* 1875: 385. Cameroon Mts., French Equatorial Africa.
Records.—Kiambu (H.C.); Nandi Forest (B.M.C.); Kikuyu (2) (C.M.C.); Nairobi (C.M.C.).

Genus EPTESICUS Rafinesque. **Serotine Bats.**

EPTESICUS RENDALLI (Thomas) 1889.
Vesperugo (*Vesperus*) *rendalli* Thomas, *Ann. Mag. Nat. Hist.* (6) 3: 362. Bathurst, Gambia.
Records.—Nyama Nyango, Eusso Nyiro (B.M.C.).

EPTESICUS LOVENI Granvik 1924.
Eptesicus (*sic*) *loveni* Granvik, *Acta Univ. Lund* (2) 21: No. 3 p. 12. Eastern slopes of Mt. Elgon, Kenya Colony, 8,000 feet.
Records.—Known only from the Type Locality.

EPTESICUS TENUIPINNIS TENUIPINNIS (Peters) 1872.
Vesperus tenuipinnis Peters, *Monats. K. Preuss. Akad. Wiss. Berlin* 1872: 263. Guinea.
Records.—Kisumu (H.C.).

EPTESICUS PHASMA G. M. Allen 1911.
Eptesicus phasma G. M. Allen, *Bull. Mus. Comp. Zool.*, 54: 327. Meru Rr., N. Guaso Nyiro, Kenya Colony.
Records.—Archer's Post (16); Lakiundu Rr. (16); Tana Rr. (16); Chandler's Falls (B.M.C.).

EPTESICUS CAPENSIS SOMALICUS (Thomas) 1901.
Vespertilio minutus somalicus Thomas, *Ann. Mag. Nat. Hist.* (7) 8: 32. Hargaisa, Somaliland.
Records.—Archer's Post (16); Marsabit Rd. (16); S. Guaso Nyiro (16); Guaso Nyiro (1) (C.M.C.); Parklands, Nairobi (C.M.C.); Ushingo (C.M.C.).

EPTESICUS GRANDIDIERI (Dobson) 1876.
Vesperugo (*Vesperus*) *grandidieri* Dobson, *Ann. Mag. Nat. Hist.* (4) 18: 500. Zanzibar.
Records.—S. Guaso Nyiro Rr. (1).

Genus SCOTOPHILUS Leach. **Brown Bats.**

SCOTOPHILUS NIGRITA COLIAS Thomas 1904.
Scotophilus nigrita colias Thomas, *Ann. Mag. Nat. Hist.* (7) **13**: 207. Fort Hall, Kenya Colony.
Records.—Archer's Post (16); Lakiundu Rr. (16); Merelle Rr., Marsabit Rd. (16); Nairobi (C.M.C.) (16); Lamu (H.C.); Mombasa (H.C.); Ruiru, Nairobi (H.C.); Kilifi (H.C.); Kabete, 7 Kms. N. of Nairobi (18); Eusso Nyiro (B.M.C.);; 30 miles N.W. of Baringo (B.M.C.); Below Chandler's Falls (B.M.C.); Kikuyu (24); Ngong (C.M.C.); 30 miles east of Falls, Eusso Nyiro (C.M.C.); Kiambu (C.M.C.); Sekoke Forest (C.M.C.).

Genus NYCTICEIUS; Rafinesque.

Subgenus SCOTOECUS Thomas.

NYCTICEIUS (SCOTOECUS) HIRUNDO HINDEI (Thomas) 1901.
Scotoecus hindei Thomas, *Ann. Mag. Nat. Hist.* (7) **7**: 264. Kitui, Kenya Colony, 1,150 meters.
Records.—Archer's Post (16); Lakiundu Rr. (16); N. Guaso Nyiro (16); Guaso Nyiro (1); Lorian (B.M.C.) (C.M.C.); Mara Rr. (C.M.C.); Kinaia, nr. Laitokitok (C.M.C.).

NYCTICEIUS (SCOTOECUS) ALBIGULA (Thomas) 1909.
Scotoecus albigula Thomas, *Ann. Mag. Nat. Hist.* (8) 4: 544. Kirui, Mt. Elgon, Kenya Colony, 6,000 feet.
Records.—Known only from the Type Locality.

NYCTICEIUS (SCOTOECUS) ARTINII (de Beaux) 1923.
Scotoecus artinii de Beaux, *Atti. Soc. Ital. Sci. Nat. Milano*, **62**: 98. Archer's Post, N. Guaso Nyiro, Kenya Colony.
Records.—Known only from the Type Locality.

Subgenus SCOTEINUS Dobson.

NYCTICEIUS (SCOTEINUS) SCHLIEFFENII ALBIVENTER (Thomas & Wroughton).
Scoteinus schlieffenii albiventer Thomas & Wroughton, *P.Z.S. London*, **1908**: p. 540. Naikhala, Upper Egypt.
Syn. Nycticeius africanus G. M. Allen, *Bull. Mus. Comp. Zool.* 54: 328. 1911. Meru Rr., N. Guaso Nyiro Rr., Kenya.
Records.—Archer's Post (16); Kara Rr. (16); Lakiundu Rr. (16); Mt. Lololokwi (16); Quoy, Marsabit Rd. (16); Lorian (B.M.C.); Lodwar (23); Rifi Valley, 30 miles N.W. of Baringo (B.M.C.); Mara Rr. (B.M.C.); Nyama Nyango, Eusso Nyiro (B.M.C.); Chandler's Falls (B.M.C.) (C.M.C.).

Genus PIPISTRELLUS Kaup.

PIPISTRELLUS HELIOS Heller 1912.
Pipistrellus helios Heller, *Smithsonian Misc. Coll.* **60**: No. 12. p. 3. Merelle Water, 30 miles S. of Mt. Marsabit, Kenya Colony.
Records.—Archer's Post (16); Lakiundu Rr. (16); N. Guaso Nyiro (16) (C.M.C.); Ndoto (B.M.C.); Chandler's Falls (B.M.C.); Lodermoru Water (B.M.C.); Laisamis, Marsabit Rd. (B.M.C.); Nyama Nyango, Eusso Nyiro (B.M.C.); Lorian (B.M.C.).

PIPISTRELLUS KUHLII FUSCATUS Thomas 1901.
Pipistrellus kuhlii fuscatus Thomas, *Ann. Mag. Nat. Hist.* (7) **8**: 34. Naivasha, Kenya Colony.
Records.—Eldoret (H.C.); Songhar, nr. Kisumu (H.C.); Molo (H.C.); Engare Narok Rr. (16); Kabalolot Hill (16); Sotik (16); Nairobi (16).

PIPISTRELLUS DESERTI Thomas 1902.
Pipistrellus deserti Thomas, *P.Z.S. London* **1902, 2**: 4. Tripoli, Mursuk, Libya.
Records.—Meru Rr. (1); Bulessa (4).

PIPISTRELLUS AERO Heller 1912.
Pipistrellus aero Heller, *Smithsonian Misc. Coll.* **60**: No. 12, p. 3. Mt. Gargues, Mathew's Range, Kenya Colony.
Records.—Ngong (C.M.C.).

PIPISTRELLUS NANUS NANUS (Peters) 1852.
Vespertilio nanus Peters, *Reise nach Mossambique, Saugethiere*, p. 63. Inhambane, Mozambique.
Records.—Yala Rr. (16) (C.M.C.); Fort Hall (B.M.C.) (H.C.); Kitale (H.C.); Cherangani Hills (21); Mumias, Elgon (B.M.C.); Kakamega, Elgon (B.M.C.); Nidji Hills, Voi (B.M.C.); Mazeras (B.M.C.); Eusso Nyiro (B.M.C.) (C.M.C.); Archer's Post (4); Bulessa (4); Kaimosi (2); Mt. Mbololo (2); Golbanti (2); Kakamega (H.C.); Marsabit Lake (C.M.C.).

PIPISTRELLUS RUPPELLI FUSCIPES Thomas 1913.
Pipistrellus fuscipes Thomas, *Ann. Mag. Nat. Hist.* (8) **11**: 315. Sixty miles west of Entebbe, Uganda.
Record.—Naivasha (C.M.C.).

Subfamily MINIOPTERINAE. **Long-fingered Bats.**

Genus MINIOPTERUS Bonaparte.

MINIOPTERUS SCHREIBERSI ARENARIUS Heller 1912.
Miniopterus natalensis arenarius Heller, *Smithsonian Misc. Coll.* **60**: No. 12, p. 2. Guaso Nyuki, Northern Guaso Nyiro, Kenya Colony.
Records.—Lake Naivasha (16); Ngare Nyuki (16); Ulukenia Hills (16); Endebess (H.C.); 25 miles N.W. of Kitale (H.C.); Elmenteita (H.C.); Daraja ya Mungu, Nyamindi Rr., 10 miles west of Embu (H.C.); Kirui, Elgon (B.M.C.); Devil's Cave, Kitale (H.C.); Elgon Caves (C.M.C.); Ngong (C.M.C.); Nairobi (C.M.C.); Kericho (C.M.C.).

MINIOPTERUS AFRICANUS Sanborn 1936*.
Miniopterus africanus Sanborn, *Zool. Ser. Field Mus. Nat. Hist.*, **20**: 111. Sanford's Ranch, Mulo, Shoa Dist., north-west of Addis Ababa, Ethiopia.
Records.—Ulukenia Hills (22); Lirandha Hill, Kakamega (H.C.); Nakuru (H.C.); Elmenteita (H.C.).

*Two species of *Miniopterus*, which occur together in some localities, are easily distinguishable in Kenya material examined by the author and the larger is regarded as *M. africanus*. The very small *M. minor* also occurs in S. Kenya.

MINIOPTERUS MINOR MINOR Peters 1866.
Miniopterus minor Peters, *Monatsb. K. Preuss. Akad. Wiss. Berlin*, **1866**: 885. Coast of Zanzibar.
Records.—Shimoni (9).

Subfamily KERIVOULINAE. **Forest Bats.**

Genus KERIVOULA Gray.

KERIVOULA HARRISONI HARRISONI Thomas 1900.
Kerivoula harrisoni Thomas, *P.Z.S. London*, **1900**: 802. Walamo, between Lakes Zwai and Margherita, north-eastern Africa.
Records.—Kinangop, east of Naivasha (H.C.); Marsabit (H.C.); Nyeri (B.M.C.) Taveta; (B.M.C.); Ngong (C.M.C.); Koru (C.M.C.).

KERIVOULA CUPROSA Thomas 1912.
Kerivoula cuprosa Thomas, *Ann. Mag. Nat. Hist.* (8) **10**: 41. Bitye, Ja Rr., Cameroons.
Records.—Fort Warwick (11) (H.C.).

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(*Received 2nd August*, 1960)

AN EAST AFRICAN GECKO COLONISING ASCENSION ISLAND

By

ARTHUR LOVERIDGE

In April, 1959, among lava blocks on the coastal plain, two geckos were captured by Mr. Bernard Stonehouse of the B. O. U. Expedition to Ascension Island. To my surprise, instead of being referable to the cosmopolitan *Hemidactylus frenatus* Dum. et Bib., I found they were examples of the East African *H. mercatorius* Gray. This led me to appeal to Mr. P. Critchley, long resident on Green Mountain, who very kindly secured, and sent to me, four more geckos which he caught between Devil's Riding School and Table Crater, Ascension Island.

These records demonstrate surprising adaptability on the part of *mercatorius* to a change of habitat, for in East Africa the distribution of the species appeared to be correlated with that of coconut palms. Mr. Critchley informs me that these trees have been established on Ascension but do not thrive; the main grove—consisting of about seventeen palms—is at Two Boats. If introduced as seedlings it is reasonable to assume that the eggs of *mercatorius* were present in the axils of the fronds or among protective packing. Geckos, which invariably lay two hard-shelled eggs, are especially prone to dispersal in this way, especially among oceanic islands. Alternatively the eggs may have arrived in the 17th century by westbound slavers from Madagascar, or with packing or produce landed by one of the Union-Castle ships from East Africa that call each month at Ascension Island.

In the equitable climate of Ascension it is possible that breeding occurs during most of the year. Ova were forming in one of the two ♀♀ received on 13th April; two ovarian eggs measuring 3.5 mm. in diameter were present in one, and two eggs measuring 9 × 11 mm. in the second of two geckos which arrived on 23rd September; an egg measuring 8 × 11 mm. was (presumably prematurely) deposited during a fortnight's transit by the only ♀ in whose oviduct a 9 × 11 mm. egg was present upon her arrival on 2nd November. With her, but in a separate receptacle, Mr. Critchley sent two hard-shelled eggs measuring 8.5 × 9.5 mm., and 9 × 10 mm. respectively. In size, therefore, they are comparable to my Tanganyika records of *mercatorius* measuring 8 to 9 mm. in diameter, and Nyasaland ones of from 8.5 to 9.5 mm.

Unfortunately their size also agrees with the eggs measuring 8 × 9.5 mm. that I collected at the Sanatorium on Green Mountain, Ascension Island, which led me to conclude that *H. frenatus* was present, for I obtained eggs of that species on St. Helena that also measured 8 × 9.5 mm. For the time being, therefore, the presence of *frenatus* on Ascension must be considered not proven. Incidentally, eggs of *frenatus* that I collected on Lamu Island, Kenya Colony, ranged from 9 to 10 mm. in diameter.

The following data derived from the six adult Ascension geckos, adds little to the known variational range of *mercatorius*, of which *gardineri* Boulenger is a synonym (cf. Loveridge, 1947, Revision of the African Lizards of the Family Gekkonidae, Bull. Mus. Comp. Zool., **98**, pp. 181-183).

Nostril surrounded by the rostral, first labial and 3 small nasals, except on the left side of the only ♂ where there are 5 nasals and the labial is excluded; upper nasal separated from its fellow by a single granule, except in the ♂ where anteriorly there are 3 followed by 2; upper labials 8-11; lower labials 6-9; across the back at midbody are

from 12-16 more or less regular longitudinal rows of oval, keeled or subtrihedral tubercles; 4-6 scansors under the first toe, 6-9 under the fourth, usually all but the first and last scansors paired; ♂ with 30 (15 + 15) preano-femoral pores. Head and body length of ♂, 57 mm.; of largest ♀, 54 mm., thus exceeding East African mainland maximums but not the Malagasy record of 58 mm. for a ♀ which, like the Ascension lizards had a truncate or regenerate tail.

As these lizards usually appear grey or brown when preserved, I took the opportunity of recording the coloring in life of the ♀ with regenerated tail, taken on 13.iv.59. Above, pinkish buff, from nostril through eye to above the ear a dark sepia brown streak; crown of head blotched with brown and speckled with white; back with a vertebral series of five elongate, rectangular, brown blotches flanked dorso-laterally by an almost continuous, though less well-defined, series of brown markings; between these and the vertebral markings the white (keeled) tubercles form diamond-shaped patterns. Tail with wavy brown crossbars, the intermediate areas distinctly pinkish. Below, white, uniform, except beneath the tail which is flecked with brown and yellow (tip only regenerated).

Another ♀, but with a perfect tail, was substantially similar to the larger example but its tail was more distinctly crossbarred and brighter pink between. Below, the distal portion of the tail exhibits three distinct crossbars in addition to a black tip.

Red scale mites were present on two of the six specimens.

Previously this species was known only from coastal Kenya Colony and Tanganyika Territory; including Pemba Island (and almost certainly Zanzibar and Mafia Islands), the Seychelles and Aldabra Islands, Madagascar and Mauritius; south to Mozambique, inland to Nyasaland.

(*Received February*, 1960)

THE ASSOCIATION BETWEEN IMPALA AND OLIVE BABOON

By

A. M. Morgan-Davies

(*Park Warden, Lake Manyara Game Reserve*)

The instances of commensalism and symbiosis in the zoological world are as many as they are varied, the acquisition of food being in most cases the main object in view, protection being another. The majority of the better known instances concern the smaller and lower forms of animal life, there be comparatively few recorded instances in which the larger and higher forms are involved.

In the Lake Manyara Game Reserve in Northern Tanganyika two of the most common species of mammals are the impala and olive baboon. Their relationship, on occasions, provides a good example of commensalism, the impala being the beneficiaries. The intermingling of herds of impala and troops of baboon can not fail to strike the more observant visitors to the Reserve and is attributable to the liking shared by both species for certain fruits and seeds.

During October the seed pods of *Acacia sieberiana* DC. are ripe and baboons cluster upon the trees where they gorge themselves upon the seeds and their pods.

Being wasteful feeders much of what they obtain falls to the ground half chewed and is eagerly consumed by the numerous impala gathered below. In January and February the fruit of *Phoenix reclinata* Jacq. are fully mature and provided the growth of the palm is not too dense, baboon clamber up and once more their wasteful feeding habits provide the patiently waiting impala with a further variation to their diet.

The association has a second and incidental benefit to the impala. The area in which this commensalistic relationship takes place is one of heavy undergrowth which, under normal circumstances, is not the preferred habitat of impala and one which they are inclined to avoid for fear of predators. This drawback, however, is negatived by the baboon who are normally the first to give warning of the presence of predators. When this happens the baboons make for the topmost branches of the nearest trees and the impala flee to more open country.

(*Received 26th June*, 1960)

PAINTED SNIPE OBSERVATIONS

By

HENRY H. WILLIAMS

During the past few weeks I have been able to observe the habits of a female Painted Snipe, *Rostratula benghalensis* (Linnæus), a brief account of which may add to the comparatively scant recorded knowledge of this solitary and little known bird.

The Painted Snipe is of singular interest in that it is the only species occurring in the African continent of the family *Rostratulidae*, the other being found in South America. It is also unusual in its colouration, for the female is the brightly plumaged member of the pair, her chestnut head, neck and throat, white eye-stripe and belly, and green-glossed olive-brown upper parts contrasting strongly with the more sombre plumage of her mate; in addition she is larger than her partner, is believed to be polyandrous and is the dominant member in courtship, even to the extent of fighting with other females for the favours of the male—a characteristic which is shared only by a few other birds, notably the phalaropes and jacanas.

Praed and Grant (Vol. 1 p. 370) makes no mention of the Painted Snipe being a nocturnal feeder but this now seems likely from my observations. Throughout the three weeks period of study, the bird remained within the deep shade and protection of dense water-side herbage during daylight hours, occupying the same "roost"—a branch submerged in water—on the many occasions that visits were made to the site. Owing to the closely packed vegetation in which it rested, observation of the bird was difficult, the inverted black horseshoe on its chest and pronounced white eye patches being the only well-defined identifying features during the daytime.

As sunset approached, the bird was observed to indulge in a considerable amount of wing and leg stretching—a further likely indication that it roosts continuously during daylight hours—and also preening of its underparts, which had possibly become water-soiled during its roosting.

Regularly, between 18.45 hours and 19.00 hours, when the sun had gone below the hills, the bird left its shelter, showing considerable suspicion and wariness in the process. A sudden disturbance or noise caused by other feeding waders or a pair of Crowned Cranes, *Balearica regulorum gibbericeps* Reichenow, which were constantly

feeding nearby, would send it scuttering back into its sanctuary. If all was quiet, it would begin its feeding, probing much in the manner of the snipes, but it was noticeable that its movements were always accompanied by a nervous fore-and-aft bobbing movement of its body.

When flushed from its roost, it flew in a characteristically sluggish, rail-like fashion with its pale olive-green legs hanging almost vertically beneath its body. It flew only a short distance to other dense herbage but within a timed half-an-hour had returned by stealthy movements through the reeds and grasses to its original roosting place.

At one time, it occurred to me that a male might be sitting on eggs in the vicinity—it being known that the female takes little or no part in such domestic activities—but careful search failed to reveal a nest. However, these birds are recorded as being unusually close sitters, so there may be a nest, and as the young of this species has never been accurately described, my patient watch will be continued during the next few weeks.

THE CHESTNUT-BANDED PLOVER AT LAKE MANYARA, NORTHERN TANGANYIKA

By

A. M. Morgan-Davies

(*Park Warden, Lake Manyara.*)

From the account by Praed and Grant (1957), the breeding records of the Chestnut-Banded Plover, *Charadrius venustus* Fischer & Reichenow, are confined to Lake Magadi, Kenya Colony. In fact, owing possibly to this apparent single recorded breeding area, the species has acquired the subsidiary name of the Lake Magadi Plover.

An extension to the breeding records of this species must now be made to include Lake Manyara, Northern Tanganyika. Apart from being quite plentiful almost throughout the year, it has been recorded breeding during 1959 and 1960. On the 11th August, 1959, I watched a fledgling emerge from a clutch of two eggs on the eastern shore of the lake. In 1960 numerous fledglings were seen during July, August and September. During these months Chestnut-Banded Plovers are definitely more numerous, which may indicate the possibility of a local seasonal movement up and down the Rift Valley between Kenya and Tanganyika.

Between 11.10 a.m. and 12 noon on the 23rd July, 1960, I watched a pair of these birds nest building, courting and copulating. The male bird was noted first hollowing out a nest site with its feet and wings. While he was doing this, the female made periodic visits to see how he was progressing, on each occasion ejecting him from the nest and trying it out for size. After the third visit by the female, the male approached her from the rear and, after about four to six very pronounced "goose steps" just by her tail, hopped on to her back. With a firm grip on the back of the female he copulated for a few seconds and then fell over backwards pulling the female over with him. In this upside down attitude they remained for a few seconds before regaining their feet.

It is interesting to note that Barry (1960) noted a very similar courting and copulating pattern in a pair of Kittlitz' Plovers in South Africa.

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(*Received October*, 1960)

REPORT ON BIRD RINGING — 1960

It was regrettable that due to illness Mr. Reynolds had to resign as Executive Officer, Bird Ringing, after he had done the bulk of the preliminary organisation.

The following is an addition to bring his last report of 21st June, 1960, up to date:

RINGS.

These are now available in the following sizes:

3 mm. at 8/- per 100 — suitable for smaller shrikes, very small waders, etc.
4.5 mm. at 10/- per 100 — smaller waders, dunlin, sandpipers, large passerines.
5.25 mm. at 13/- per 100 — large waders, e.g. grey plover and ruff, small duck, e.g. Cape teal.
11 mm. at 21/- per 100 — large duck, geese, glossy ibis, large herons.

These have been stamped with "SEND MUSEUM NAIROBI" and have the serial number. We regret that we are unable to supply rings free to members, and request that as these rings are being supplied at cost price, money for postage should be included.

Pliers for 11 mm. rings are available. Others are on order.

COLOUR RINGS.

A small stock of these is available at 1/25 per doz. (small size only).

SCHEDULES.

These are sent free with orders for rings.

It must be mentioned here that it is illegal for anyone to trap birds without first obtaining a permit to do so from the Game Department.

REPORT ON RINGING done by A. CARTER and E. J. BLENCOWE

KENYA.

Sewage Works, Eastleigh, Nairobi.

Yellow Wagtails (*Budytes flava* [Linnaeus]).

Ringing of these birds commenced towards the end of November, 1960. Mist nets were used with some success. Up to 3rd December, 1960, some eighty-three wagtails had been ringed.

The main difficulties we encountered in netting these birds were:—

(i) The high wind in the area made positioning the nets difficult and a good many birds 'bounced' out of the taut nets;

(ii) The birds quickly learn the position of the nets. Almost all birds caught were caught within the first hour in each net. The nets then had to be moved;

(iii) Wastage of time frightening wagtails from the nets, due to catching local birds such as shrikes and weavers which have an unfortunate way of becoming thoroughly entangled in the nets.

Unfortunately most of the yellow wagtails at this time of year are in winter plumage, and so it was not possible to identify female and young.

REPORT ON COLOUR RINGING done by A. M. MORGAN DAVIES

TANGANYIKA.

Lake Manyara.

November, 1959—August, 1960.

The following birds were colour ringed:

Kittlitz Sand Plover (*Charadrius pecuorious* Temminck)	33
Chestnut Banded Plover (*Charadrius venustus* Fischer & Reichenow)	2
Two-banded Courser (*Hemerodromus africanus* [Temminck])	13

All birds were ringed as fledglings. Red, blue and green rings were used.

E. J. Blencowe, M.B.O.U.

December 19, 1960.

NOTES ON ATTEMPTS TO TRAP WADERS AND DUCK FOR RINGING EAST AFRICA 1959/1960

The writer spent some time in England in 1958 investigating the practical problems of ringing, especially duck, with a view to setting up a ringing station with Capt. C. Rawlins on Lake Nakuru; a visit was paid to Abberton where Gen. Wainwright very kindly discussed his methods, especially the Abberton type cage located on the waters edge and employed very successfully to trap duck feeding on grain scattered in the short foliage. The cage was generally sited about half in and half out of the water. Elsewhere in England duck are trapped mainly in decoys which involve an elaborate technique with a specially constructed pond.

On return to East Africa in the second half of 1958, an Abberton type trap was constructed and erected on Lake Nakuru in the area of the Phosphate Concession. The site was used largely on account of its accessibility by car, combined at that time with its seclusion.

Subsequent observation shewed that the duck, when on Lake Nakuru during 1958/59 (at least), fed during the morning and evening on the water (and probably through the night). Provided that there were no human beings about, they then settled down for the day on "loitering banks". These were in most cases just off shore and were soon bare mud. Sometimes they would choose a clear spot on the mainland, particularly when the water was at its highest about October/November, 1958. Our trap was therefore placed half in and half out of the water on such a "loitering bank" and various baits were tried.

The South African Ornithological Society report that crushed grain will attract Southern Pochard, *Aythya erythrophthalma* (Wied), at Rondevelin. Crushed maize and a variety of other grains were tried at Nakuru during November, December and January, 1958/59. Observation and careful examination shewed that the duck would even stand on the grain, but would not pick any of it up; they were not therefore tempted to enter the cage. It has since been suggested that a fresh attempt should be made employing one or more decoy ducks inside the cage. At this particular spot the great majority of the duck were Southern Pochard with a fair number of Cape Teal, *Anas capensis* Gmelin; a few Shovelers, *Anas clypeata* Linneus, were seen from time to time. It is hoped to give a more detailed account of the numbers of duck and their occurrence on the lake, over this period, in a separate paper.

In January the lake began to fall and, as it is very shallow, the waterline moved considerable distances, and the duck moved their "loitering banks" accordingly. It was not thought worthwhile to move the trap till more was known and this experiment was discontinued.

In December, 1959, the writer paid a visit to Lake Manyara, Tanganyika, at the kind invitation of the warden there—Mr. Morgan Davies, F.Z.S. Observation shewed that the duck had the same habit of using "loitering banks", but in this case they were not easy of access as the bank was in the middle of a shallow stream running over deep and very adhesive mud. No attempt was made at the time to use the double clap net which the writer had made up, but Mr. Morgan Davies reports that he has since succeeded in catching small numbers of duck, using the clap net on the "loitering banks".

In January, 1960, the Hippo pools on Lake Nakuru were visited to watch the early morning flights. The water had by now dropped some 2 ft. from the high levels of November, 1958, and the duck were frequenting the streams running through the reeds. It seemed that these were ideal spots for using the clap nets.

At an earlier period a certain amount of ringing of waders was carried out at Entebbe and the writer was told by one of those who had assisted that, given correct weather conditions, some waders can be picked up as they rest during the night. It was thought that this might be tried at Lake Manyara, but the presence of buffalo on the selected area as night fell put a premature stop to the attempts during the December, 1959, visit. At Lake Manyara an attempt was also made to trap waders by use of a small Bush trap with long wings and a funnel-like entry. This was erected over and across a stream some 15 yards wide; although there were a fair number of waders on the stream, only a single bird was caught between 15.00 hours when the trap was erected and 07.00 hours the following day.

It may well be that the time was too short for the birds to accept the trap, but it was considered unsafe to leave it. A similar but more simple trap with low wire wings left in position for some time, but with the trap open, was seen on at least one occasion to have a bird in it, and carefully watched this might be successful at the proper time of day, i.e. when birds were feeding along the stream.

A short study was also made of the open flats of Lake Manyara when birds were feeding steadily and in considerable concentration. But the water level was dropping fairly rapidly and, since the lake is very shallow, this meant that the actual feeding grounds were moving some hundreds of yards each day. Again there would be no time to set up the trap and allow the birds to become accustomed to it before the ground had lost its attraction as a source of food. In addition there was every sign that buffalo and other big game covered the area frequently, so that traps could not last long without damage.

At the end of December, 1959, a visit to Maida Creek showed it to be an area well worth study as a suitable place to trap migrant waders for ringing.

It is suggested that this is an attractive place which could be developed as a Bird Ringing station to be operated by interested members of the Society who have not the opportunity to start local schemes of their own. The house previously owned by Mr. K. Hansen would make ideal accommodation, though the site is also very suitable for camping and is only a few miles from Malindi. It would need some careful study,

however, as the birds congregate at different spots depending on the daily variations in the high tide.

Major Kinloch expressed interest in duck ringing in Uganda. As there is an organisation there controlling duck shooting on a number of dams in the Western Provinces, much interesting information should be obtained if ringing can be instituted. Again the trouble will be the trapping of the duck in the first place. It has been arranged provisionally that the Executive Officer of the ringing Sub-committee should visit Uganda in about September to assist in the organisation of such a project.

F. L. Reynolds
21*st June*, 1960.

MEANING OF THE NAME "NAKURU"

By

Patrick Kirby

Confusion exists as to the meaning of "Nakuru" although it is well known that the town derives its name from the lake.

As in many cases of place names in East Africa modifications and corruptions have resulted in several possible meanings. The word is Masai in origin, Masai formerly occupying the region in which the lake is situated. According to the District Commissioner, Narok (letter of 22nd March 1960), "Nakuru" is literally the vocative case of word meaning "O little maggots".

The prefix "Na" means "place". "Kuru" is the term for "waterbuck" in languages of nearby tribes (A. B. Sydserff, longest living resident of Nakuru, personal interview April 1958). Thus "Nakuru" perhaps means "the place of the waterbuck".

"The place where the cows won't eat" is another definition encountered ("The Story of Nakuru from the Beginning", *E.A.S.*, 28th Nov., 1952). This would reflect a mineral deficient soil west of town.

In addition to the presently used spelling of Nakuru, early spellings are "Nakura"; "Nakuro"—the form used by Joseph Thomson, first European to see the lake; and "Nakurro". Von Hohnel used the expression "Nakuro Sekelai"; the latter word refers to the Illosekelai clan, one of seven clans of the Masai, which lived in the Nakuru area (District Commissioner, Narok).

"Nakurro", pronounced with a trilled "r", means "the dusty place", "the shifting place", "the place of smoke" (District Commissioner, Narok). "The place of the dust devils" is another definition used ("Clouds Over Nakuru", *E.A.S.*, 21st July, 1953).

These last meanings seem most appropriate. They reflect the fluctuating character of the lake and its tendency to dry up from time to time. Powdery alkalai then formed on exposed and desiccated bare ground is whipped up into white clouds when there is a high wind.

(*Received January*, 1961)

NATURE NOTES:
CRAWFISH

While night fishing at low tide in Tudor Creek, Mombasa, we netted a species of crawfish which on examination proved to be a type not previously known to us in these waters.

Data: Normal length 9 in.

Length with telson and abdominal segments extended 11 in.

At widest point of carapace 3½ in.

None of the legs are chelate, and the maxilla is large and blade-like for swimming. There is no rostrum or cervical groove, the carapace being rectangular and somewhat flattened. The pleuron on the first 3 abdominal segments is serrated and exactly like a cockscomb.

In colour it is dark reddish brown with cream markings; It was seen walking in shallow water on a bottom of rock and mud. It probably belongs to the sub-order Palinura, but the species is unknown.

ROSEMARY SMART,
Mombasa

Editor's note: The creature mentioned above could be Thenus orientalis, *a bottom dwelling crawfish which has been recorded from the East African coast, but it is impossible to be certain without access to the specimen.*

NOTES ON SOME BIRDS SEEN ON A TRIP TO KIGEZI DISTRICT, S.W. UGANDA, MARCH, 1960

BLUE FLYCATCHER (*Eranornis longicauda kivuensis* (Grote)). The Kivu race was observed on March 8th at the north end of Lake Bunyoni, and again on March 12th near Lake Mutanda. The white outer tail feathers were very conspicuous. Near Kanungu, about 30 miles (in straight line) to the North, the nominate race was the only one observed.

BLACK BEE-EATER (*Melittophagus gularis* Shaw & Nodder). On March 14th a single individual and on March 16th a pair were observed near Kanungu on the outskirts of the Impenetrable Forest. Praed & Grant state that it "only just reaches our area at one point", Bwamba; but as they say themselves, it is an unmistakable species.

BREEDING NOTES

PINK-FOOTED PUFF-BACK (*Dryoscopus angolensis* Hartlaub). On March 16th a pair was observed in the Forest neat Kanungu. The female was collecting cobwebs. She returned again and again to the same patch of bush, but we failed to locate the nest. The area was difficult to search, as it was on the edge of recent clearing and was a mass of dead branches overgrown with weeds and creepers. The male was hunting in the trees near by and did not seem to be taking any part in nest building. The harsh jarring call described by Praed & Grant must be their alarm call. Besides this they used the recognisable single call-note of the Puff-backs.

BLACK-BILLED WEAVER (*Heterhyphantes melangaster* (Shelley)). On March 17th in the same forest we saw one of these weavers return to its nest with nesting material. The birds seem very shy of approaching the nest when anyone is about, and it was only by chance that we remained in the car for some time and saw the bird return. There were many of these nests in the area, hung without any attempt at concealment on the ends of long twigs and projecting sticks, often at a considerable height. They seemed always to be in pairs, though sometimes some distance apart in separate trees. They are compactly built, and constructed almost entirely of the dried tendrils of creepers, though grass rootlets and stems are also used and the lining is of grass. They are retort shaped, with the entrance to the funnel on a level with, or just below, the bowl of the nest. They present a very dark brown and dried-up appearance, suggestive of old

disused nests, and this, combined with the fact that the birds will never under ordinary circumstances be seen at them, may account for the paucity of breeding records; for the birds are plentiful and must breed freely. All the nests are likely to have been theirs as we saw no other weavers in that area.

African Broadbill (*Smithornis capensis* (Smith)). On March 16th a pair was observed in a patch of forest near Kanungu, and the nest was located. One of us climbed up and examined it. It was suspended from a flowering stem of *Crassocephalum* a few feet from the ground at the top of a high bank. It had not been completed and at that stage was made almost entirely of *Pilotrichella*, a moss, very loosely woven, dome-shaped with the entrance near the top and a suggestion of a porch. Dried rootlets and stems and leaves had also been used, mainly in the lower part, and the female was seen hammering a dead leaf violently before taking it in. There was a long tail of material hanging down about the same length as the rest of the nest. Both birds assisted with the nest building.

We much regret that our stay was so short that we were unable to follow up and confirm these observations.

E. J. Blencowe
P. M. Allen *August*, 1960.

TREE-HYRAX (*Dendrohyrax arboreus* (Smith))

Following the most interesting article on the tree-hyrax in the recent Journal and following my own article in the E.A. Annual I'd like to record that the male hyrax goes into "musht" at the end of January in the same manner as the elephant. As our male was two years old we decided to take him to the forest at this time. He had for some time been calling all night and had received challenges from the forest edge beside our garden and he had taken to urinating all over the house. As a result he was being a nuisance and this decided us to place him in the forest one hundred yards from the house.

It is quite obvious that males have their territory and they fight fiercely any strange male whether dog, cat or hyrax which invades its area. We hope to discover whether our house is the territory of our hyrax and whether he will return with a female. We have a pet young female but she will not breed until she is two years old, the present age of our male.

Incidentally the difference in the shape of head between the male and female is very noticeable, as also the colour of the fur.

Albino tree-hyrax do occur in the Mau forest. They have a beautiful silky white pelt and pink eyes, but unfortunately the Dorobo kill them, when seen, as they are superstitious about their colour.

Errol Whittall,
Dimbilil Farm,
Molo

SABINE'S SPINETAIL (*Chaetura sabini* Gray)

Extract from a letter by Mr. J. R. M. Tennent of Kakamega:

"The most interesting, I think, is Sabine's Spinetail I first saw a flock of four birds which I believed to be of this species about a mile north of Rondo Sawmill at dawn on 10th May, 1959. They were flying close together about 300 feet up and as

they swerved to and fro the very large amount of white on the upper side of the tail was very clearly visible in the low sunlight. I did not expect to see the birds again and in view of the distance from their known haunts would not have been satisfied with my identification beyond doubt. However on 5th July I saw several hawking over a large grassy glade a mile East of Rondo, and I have now found that this area is their regular haunt, at least in the afternoon and evenings, when they are regularly to be seen hawking, usually over the edges of the forest, always in the same area as Saw Wing Swallows but always a hundred or so feet above the Saw Wings, which feed about tree top level. Occasionally the Spinetails come down lower, usually before they disappear from the feeding area. A pair did so this afternoon and as a result I saw them at last in really ideal conditions with the sun fairly low behind me and against a gathering thunder cloud. The butterfly like flight and rather rounded wings were already well known to me, but on this occasion I also saw very well the exact extent of the white on the upper side. I am enclosing a sketch of my impression. I have delayed writing to you in the hope that I would eventually get as good a view as I did today and I now feel there is no possibility of a mistake in my identification."

Footnote: While collecting with the Carnegie Expedition in the Kakamega Forest during July 1960, *Dr. A. C. Twomey, the expedition's leader, and I saw the swifts described by Mr. Tennent. Always the birds flew high above the tree-tops, out of range of any collecting gun, and no specimen was obtained. My impression was that the swifts were not Sabine's Spinetail: the tail appeared too short. It is my opinion that it is an undescribed species.*

JOHN G. WILLIAMS

CINNAMON CHESTED BEE-EATER (*Melittophagus oreobates* Sharpe).

On June 11th, 1959. 8 bee-eaters were noticed in a large fig tree in Mr. S. Downey's garden at Mbagathi Ridge Karen. They were first noticed by the large splash of white droppings underneath and must have been using this roost for 3 or 4 days at least. The roost was about 25 feet above the ground on the West side within 20 yards of the house.

June 17th Birds arrived 17.50.
June 19th Birds arrive 17.45.
June 20th „ „ 17.53.
June 23rd „ „ 17.40.
July 2nd „ „ 18.20.

July 11th still 8 birds arriving regularly. Another group of 12 roosting about $\frac{1}{2}$ mile away. These did not last for more than 10 days or so.

July 19th. Bee-eaters arrived as usual but after settling twice flew away again at 18.45. A bright clear night.

July 22nd and 23rd. Back again, 7 only.

August 1st and 7th still present.

August 18th. Birds still coming to roost, unfortunately writer went away and birds left before his return at end of September.

On 18th June, 1960 Bee-eaters returned to the same roost and are still seven strong.

Reports of their staying in the roost were received a month or more later.

F. L. REYNOLDS

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